

SPECIAL
2ND ANNIVERSARY ISSUE!

SNEAK PEEK: MAC OS 8.5 STRUTS ITS STUFF

A better machine. A better magazine.

SEPT/98

Mac ADDICT 25

- ➔ **MASTER PHOTOSHOP 5's**
hottest new tools
- ➔ **RATED AND REVIEWED:**
 - Premiere 5
 - PowerBook G3 Series
 - Apple Studio Display
 - and many more!

WHY the MAC RULES the GRAPHICS INDUSTRY

4 Windows NT
Threats
Debunked!

PLUS
APPLE'S—
and MacAddict's—
darkest secrets
REVEALED!



IT'S GOOD TO
BE THE KING!

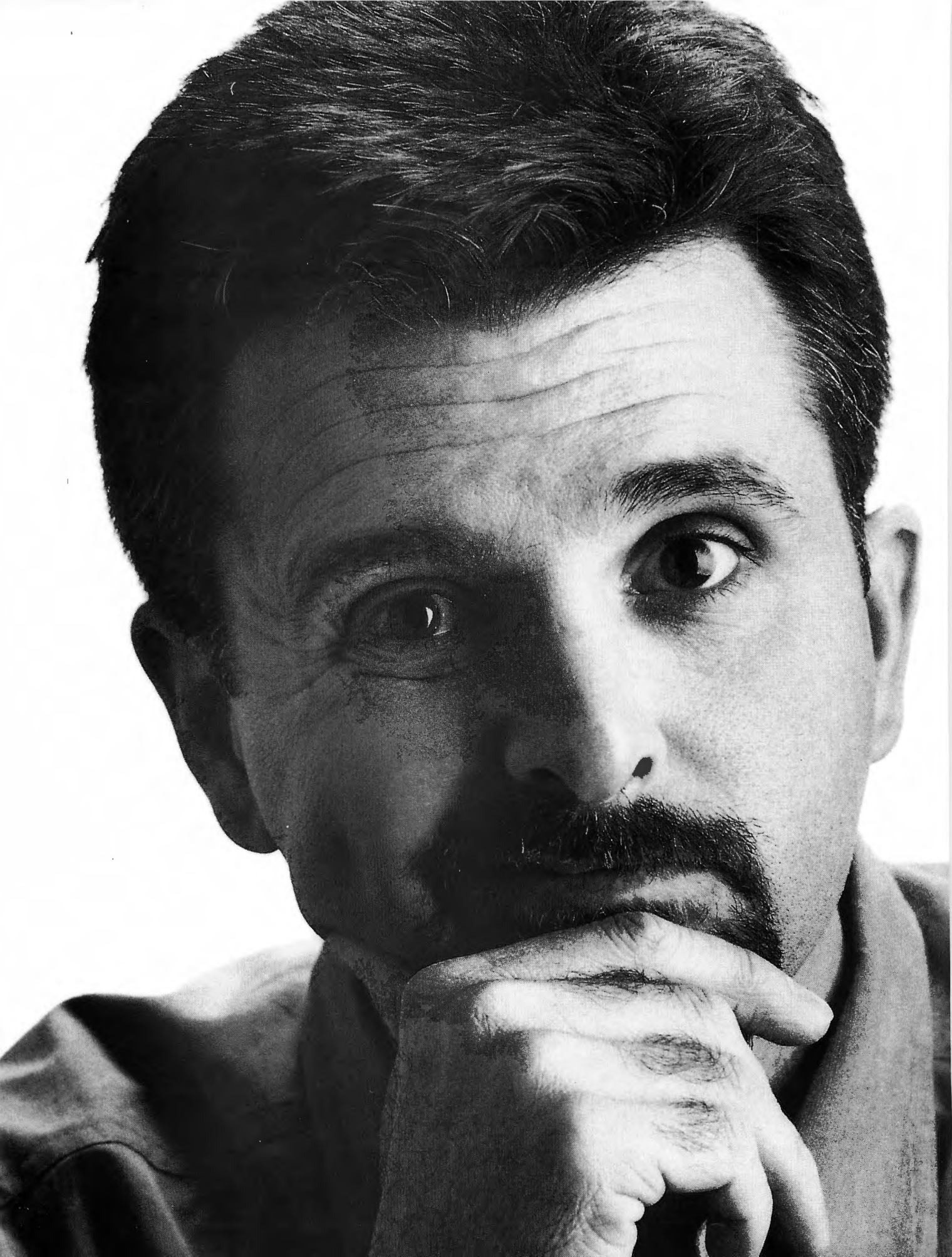


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Newer Technology makes processor upgrade cards for almost every Power Mac and are adding

more machines to the list with faster processor speeds as you read this. With a MAXpowr G3 card, you'll have a faster processor with a much faster

cache. In fact, the MAXpowr G3 card can make your old Mac one of the fastest desktop computers available even compared to Apple's new screaming G3 machines. Thanks to

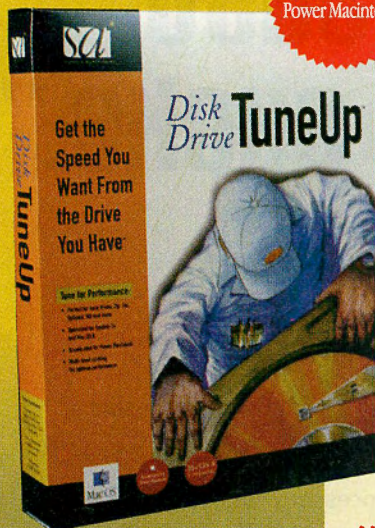
Newer Technology, your older, slower Power Mac has new life which makes waiting for a brand new machine a lot less painful.



To find out how to make your old Mac newer visit www.newertech.com or call 1-316-943-0222

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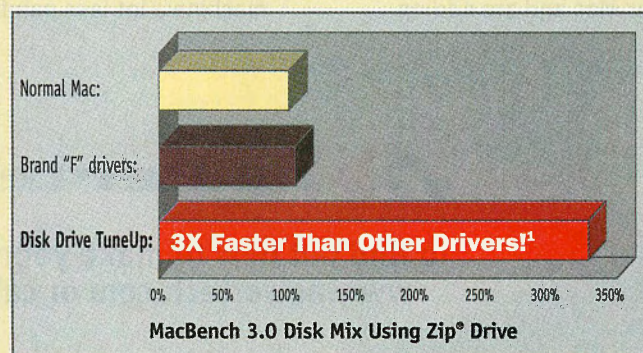
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¹ Ziff Davis, MacBench® 3.0 scores using as Iomega® Zip® drive on an Apple Macintosh Performa 6400/180 running Mac OS 8.0 with 24 MB RAM and VM on. All products used in this test were shipping versions available to the general public. This test and its results were not verified by Ziff-Davis. Individual gains depend on the type of media used, caching parameters established and system specifics.

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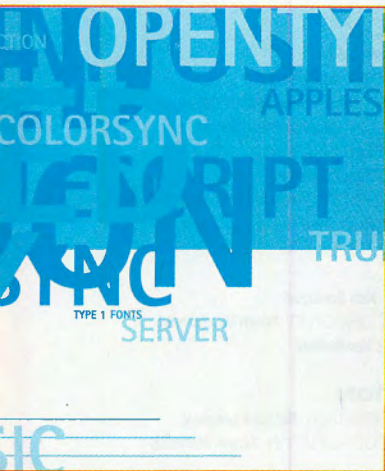
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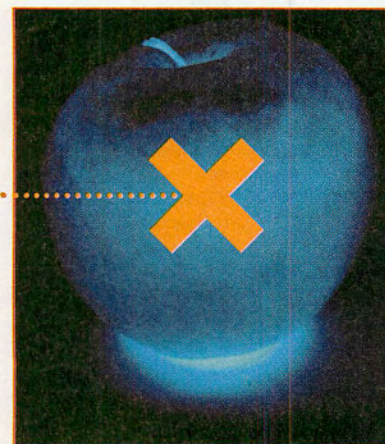
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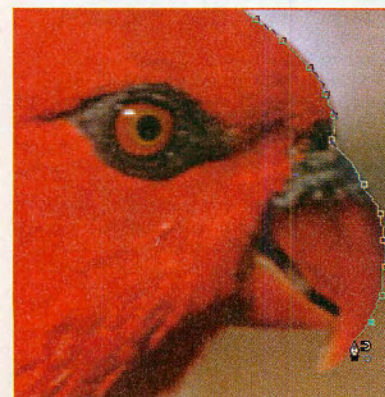
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IT'S NOT THE BLUE screen of death for Windows NT, but it's darned close!



JUST BE SURE you're playing William Tell and not William S. Burroughs.



TAKE THY BEAK from out my heart—hey, what are you looking at? Didn't you know Poe was color-blind?

highlights

22 Empty Promises

The design and publishing industry is the great Apple stronghold, but some fear its days there are numbered. Not true. We did some digging, and the future looks bright. **BY ROBERT CAPPIS**

32 Overture to an OS

Apple has an operating system strategy, and its name is X—10, that is. We show you what this brave new OS is all about, and we give you a sneak peek at this year's Mac OS 8.5 release. **BY DAVID REYNOLDS**

38 MacAddict Bluffs Notes

No one can accuse us of not being self-indulgent, so we bring you our second anniversary special recap of the history of *MacAddict*. You'll laugh, you'll cry... well, you'll laugh, anyway. **BY MARK SIMMONS**

power up

66 How to Use Photoshop's New Tools

The latest version of Photoshop includes some sharp new features, and Steve and Raf Anzovin show you how to get the most out of three cool new tools—an improved edge pen, multiple undos, and a great new type tool.

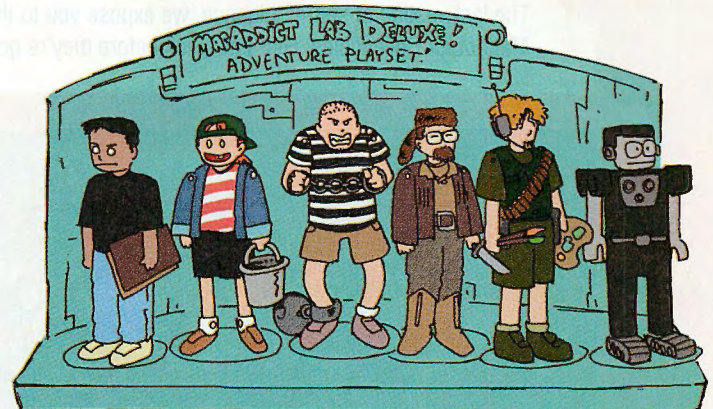
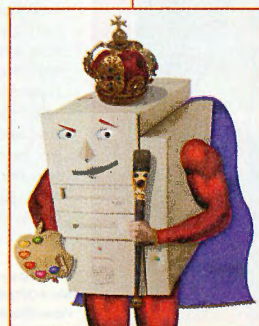
70 Learn From the Web Pros

The good folks at Levi's have gone to the trouble of creating a fun and frivolous Web site. So what did we do? We asked Joe Holmes to tear it apart, of course, to see how it works. Benefit from our carnage.

72 How to Add Sound to a Web Page

Used properly, sound on a Web page can be cool. Used improperly, it's like nails on a blackboard. Buz Zoller gives you the tools to use sound in your Web pages. How you use it is up to you. Be kind.

OUR BRAWNY, benevolent despot with the six-color palette was created by John Ueland.



BILL GATES BOUGHT ONE, so how about you? Get them now before supplies run out, or their ethics kick in—whichever comes first.

MONITOR, MONITOR,
thin and tall, you are
the fairest of them all.



every month

10 Editor's Note

Halfway through 1998, our predictions are coming true. Well, except for that Mac OS license for Umax.

12 Letters

The iMac inspires an Oedipus complex. Intrigued? So were we.

14 Get Info

Motorola and IBM go their separate ways on the PowerPC chip design, but that's not a bad thing. Plus, we delve into USB versus USSB, and we give you a new *MacAddict* Index.

18 Cravings

Five fantastic Mac products to fan the flames of your burning desires.

42 Reviews

Can you stand it? We have the PowerBook G3, the Apple Studio Display, and Adobe Premiere 5.0 leading off a collection of great—and a few not-so-great—Mac products.

76 Fun & Games

We interview Al Schilling, MacSoft product guru, to get the lowdown on the business of porting Mac games. Plus, we offer up previews of *Myth II: Soulblighter* and *Total Annihilation*, and we even give you the scoop on Yoot's Tower and *Duality*!

78 Ask Us

When you ask, we answer—or at least we think about it, then throw up our hands and go home. We tell you how to protect against the newest Mac virus, boost your Performa's L2 cache, and add USB devices to older Macs with a free PCI slot.

104 Shut Down

The last vestige of self-indulgence, we expose you to the full line of *MacAddict* Collectibles. Get 'em quick before they're gone!



HEY, HE'S GOT A GUN...I think! Quick—mob him. Wait, that's the wrong way!

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Somebody buy Cheryl a TV. Just call him MarkOPINION Simmons. Adam, what's on your PowerBook? But what about Relic?



These days, many AOL users are finding themselves S.O.L.

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is included on
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AOL: America Off Line?

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Access, of course, is everything. And if you're looking to AOL to provide it, you're *?!# out of luck. With EarthLink, you'll find that we're up 99.9% of the time.

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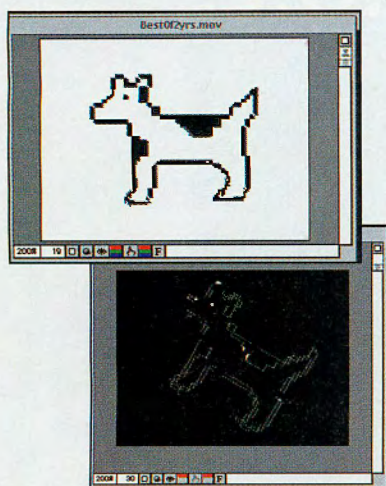
HOME

the disc

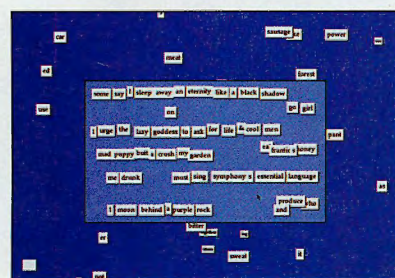
HOME

CREATING ANIMATION frames is easy. It's the drawing part that's hard...

HOME



CREATE BLUE SCREENS from images to change backgrounds easily and add cool effects.



YOU THINK THIS IS BAD? You oughta see my fridge!

highlights

Flash 3 Demo

Creating animation and graphics for the Web has never been easier than it is with this feature-rich program. Build animations via image layers placed in the timeline, or create an interactive Web site using a variety of tools and adding sound. Plus, its Web-friendly optimizing capabilities ensure quicker download of your Web pages.

Commotion 1.5.4

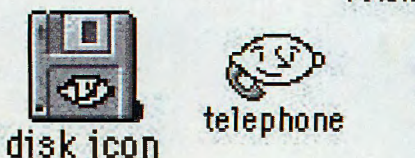
If you're a serious cinematographer (or you just play one at home), Commotion is a real asset. This program gives you the tools you need to create and edit high-quality visual effects for video and film. Paint directly onto frames, set motion trackers, and create splines for effects production, then play it back in real time.

ElectroMagnetic Poetry

You've all played with those tiny magnets stuck on everybody's refrigerator. Now you can pour out your poetic heart on your Mac without the hassle of losing words under the fridge or up the vacuum cleaner. Choose from different word lists, tile colors, and backgrounds to create your own flowing poems that might make even Maya Angelou proud.

Icon Tools 1.0

If you're an iconoholic, Icon Tools will thrill you. Using contextual menus, this program allows you to create, edit, layer, and manipulate any icon. It includes a huge collection of symbols to stamp onto icons, various framing and background options, and an assortment of tools for creating different effects, all with just a couple of keystrokes. It doesn't get any easier than this!



WE SENT MAX THROUGH THE RINGER just to show you how much Icon Tools can do.



AFTER ALL, WHEN the cupcake's all gone, there's still the cheesy clip movie!



WHENEVER you see this icon in the magazine, pop in The Disc for a special treat.

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If you choose to continue putting up with clogged bandwidth, too few local dial-up numbers, busy signals, constant down time, system tie-ups, slow-to-never e-mail delivery, outdated browsers, long waits for tech support, no java, and just a bad Mac attitude making your Internet experience very draining on your psyche and your pocketbook, you might consider this handy dandy plumber's helper.

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this month's goods



Apple

Apple Displays 1.6, Disk First Aid 8.2, Drive Setup 1.5, G3 Ethernet Driver 2.0.4, QuickTime 3.0



Communication

ChatNet 2.1, ClearPhone 4.5.8, ClearPhonePro 5.0, Combadge 1.0.1, EIMS 2.1, Email Checker 2.6.3, Eudora Pro 4.0.1, FastEmailCheck 1.5, FM Multi-URL Opener 1.0, Internet Launcher 1.0.5, IPNetMonitor 1.4, Mailsmith 1.0.1, Snak 1.4.1



Development

3D WalkAround 2.0.1, Alpha 7.1, Fireworks 1.0, PageMover 1.0, Python 1.5.1, Touch-3D



Disk & File

DiskTracker 1.1.3, DOS-Namer 2.0, FnsBorF 1.2.5, iSearch 1.2b1



Fun & Games

Abys of Pandemonium, Agitate 2.1.1, Antibody 1.0, Battle for the Planets 2.1.1, Blobs 1.7.0, Crop Circles Preview, Cyberopoly 1.0, Dream Wars! 1.0, ElectroMagnetic Poetry, Galactic Revolt 1.0.1, Game Doctor 1.0, Hardwood Solitaire II 2.1.2, MacAttack 1.98, Millennium Diner Preview, On-Line Joke Book 3.0, QuickShot Deluxe 1.0.4, Shattered Stone 1.0, Slippy(E) 1.1.0, Starbound II .91, The Castle 1.0.2, Ultimate Blackjack 1.3.3, Yacht-3D 2.1, Yipe III 1.3



Graphics & Sound

Acrobat Reader 3.01, Amadeus 1.4.4, Animals for Singer, Animation Maker 3.1, BSmooth 2.10b5, CD clef 0.9, Clixsounds, Commotion 1.5.4, CPIC 1.8.0, D-SoundPRO 3.5r3, Flash 3 Demo, Folder Icon Maker 1.5.1, FreeStyle 2.0.2, GrooveMaker, Hot Door Harmony 1.0, Imagery 1.9.3,



Information

AudioCD WebInfo 1.0.2, HourWorld Lite 2.0.3, MacAppraiser 2.2, Twistory 1.0



Productivity

Aetiket Label Printer 2.5.2, Audiofile 4, Audiofile Internet Companion, autoZIP Mail List Manager, ClockWork 1.0, ComparaDocs Lite, IntelliProp 1.0, List Pad 1.1, MasterSpell 3.5, Midius ProjectPlanner 1.0, Midnight Express 1.0.1, PhoneLog 2.0, Priority One 1.8.1, Remember 3.2, SOFTracker 3.0.2, Tradex 1.2.2, WordCoach 1.1



Text Processing

Fonts Manager 3.8, Tex-Edit Plus 2.3, textSOAP 1.1.1, TykeWriter 2.0



Updates

Year 2000 PP Translator 8-4



User Interface

AliasMenu 2.0, Clicker 4.5.1, ClippingNamer 1.0.3, CopyPaste 4.2.1, Desktop Clock 1.0, DPC Bundle 1.1.2, Dumpster 3.0.1, Finder 8.1 Menu Patch, Icon Tools 1.0, IconDropper 3.0, iMac System Icons, Janet Parris Schemes, Jeremy's CS Modules 1.9.1, Kineticon 1.2, Martha Royer Schemes, MiniWin 4.0, MyEyes 2.2.2, Mystic Textures II, Power Windows 2.0.2, Prime Desktop Patterns, Program Switcher 4.5.0, SmoothType 2.0, StarDrive 3.5, VisualFont 1.0.5



Utilities

AutoBoot 1.6.1, AutoTrash 1.0, Clean-Install Assistant 1.0, Reanimator 2.0.2, Sad Mac 3.1.1, SimpleBackup 1.6, THE BLOCK, WormScanner 1.0, Yank 3.0.1

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EarthLink—TotalAccess

EarthLink

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You also get a free 6MB of Web space; a free subscription to bLink, EarthLink's helpful magazine; and the most popular Internet browser available—Netscape Navigator. There are two ways for you to connect: a standard 3-day trial or a special 14-day trial with a low-rate subscription to MacAddict.

For the 3-day trial, just install the software and enter all the information it prompts you for, including a credit card number. You can test the service for 3 days; after that, you will be billed for \$19.95—unless you cancel. This includes full service and unlimited connect time.

The 14-day trial is a bit different. Subscribe to MacAddict at a special low price, and you'll get 14 days to check out EarthLink. If you've already got a subscription and you take advantage of this offer, you'll get an extra 12 issues added to your account. What a deal! \$19.95 a month gives you unlimited time online and all the goodies you'd ever want. And with two great trial plans available, you've got nothing to lose.

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MacLink—AbbottChat

MacLink

<http://www.maclink.net>

AbbottChat is a brand-new, server-independent chat program developed by Ken Abbott. You can download it in only 6 minutes or install it in 45 seconds. It allows private or group chat with anyone whose e-mail address you know. AbbottChat lets you talk to anyone!

MacSoft—Real Pool

MacSoft

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<http://www.wizworks.com/macsoft>

Play the most realistic pool game ever! Experience the exhilaration of lining up just the right shot. Feel how the mouse moves just like a real pool cue. Size up your opponent in the Player Selection screen. Chat with other players over the Internet. It's not just the incredible photo-realistic graphics; everything about Real Pool is more realistic—the feel of the game, the physics, the trick shots, and more!

Power On—Action Files

Power On

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Village Tronic—Picasso 540 3D card demo

Village Tronic

800-932-6442

<http://www.villagetronic.com>

Did you ever work with a video card in your Mac that was able to:

- do 3D rendering in a window?
- run Glide games?
- export an animation via video out to your VCR?
- watch the current Apple commercial on ABC?
- mix different audio sources?

Never done that before? Catch your breath, it's here! Just fire up our application on The Disc and be stunned!

highlights

Countdown to Infinity

As of this writing, Apple coyly says that the eagerly anticipated iMac will ship sometime in August, which means it'll probably arrive around the same time you get your mitts on this very issue. Check out our home page for the latest tidings of the iMac's advent, as well as updates on the progress of Mac OS 8.5.

Workin' in a Web Mine

We salute the working stiffs of the world with a Labor Day makeover. Come check it out on September 7, and remember—you have nothing to lose but your links!

The Way It Was

Is this issue's *MacAddict* retrospective not nostalgic and self-indulgent enough for you? Check out our *MacAddict* Retro feature at <http://www.macaddict.com/> exclusive for a recounting of the magazine's troubled youth.

MacAddict Network Spotlight: Deal-Mac

Deal-mac is the Mac buyer's best friend on the Internet. The site helps those interested in getting the best deal waded through issues such as gray marketing, fraud, and customer service. Before you buy, go to <http://www.deal-mac.com>.



WHENEVER you see this icon in print, visit www.macaddict.com for links and additional resources.

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www.macaddictnetwork.com



<http://www.macaddict.com/>

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<http://www.evangelist.macaddict.com/>

Evangelist is the official home of Guy Kawasaki's mailing list, bastion of Mac advocacy and scourge of the infidel.



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Every day, MacCentral stuffs you to the gills with hot news, product announcements, and nifty special reports.



<http://www.macsurfer.com/>

MacSurfer's Headline News constantly scours the Web for all the news that's fit to link on Apple and the Mac universe.



<http://www.versiontracker.com/>

VersionTracker's up-to-the-minute listings keep tabs on every Mac software product that's new, improved, or in bleeding-edge beta form.



<http://www.macfixit.com/>

MacFixIt brings you all the latest news on bugs, conflicts, and other Mac troubleshooting issues.



<http://www.macresource.com/>

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Deal-mac finds hot offers on cool products, helping Mac shoppers stay informed and save money.



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O'Grady's PowerPage is the ultimate resource for PowerBook users, with notebook news and mobility message boards.



<http://www.imgmagazine.com/>

Inside Mac Games is a monthly CD-ROM magazine devoted to Mac games, with its own news-packed Web site.



<http://www.infoxczar.com/ata/>

As the Apple Turns tunes in every day for the latest twists and turns of the Apple Computer soap opera.



<http://www.everymac.com/>

EveryMac's exhaustive catalog of Macs and Mac-compatibles provides complete specs and technical data—even on the semi-legendary Outbound notebooks!



<http://www.iconfactory.com/>

The Iconfactory turns your drab desktop into a pixelated paradise with its fabulous selection of hand-crafted icons.



<http://www.saracen.com/applejedi.html>

AppleJedi is the tub-thumping e-zine for evangelists, developers, solutions providers, and Defenders of the OS.



editor's note

On the World Wide Web, no one knows you're a dogcow.

Sometimes, flames can do you good. In late June, I wrote an opinion piece for the *MacAddict* Web site in which I said that rumors of our imminent merger with *MacHome Journal* were just that—rumors, with no basis—and that those who reported them should have called us at the magazine to find out whether or not the rumors were true. This is basic fact-checking, and it's part of Journalism 101. (By the way, we're not merging. Period.)

Well, who knew that such a stand would draw a vitriol-filled (and rather entertaining) rant? I thought my original piece was rather vanilla in flavor—short, direct, creamy good, and hardly the thing to draw a few hundred words of fire. But there it was on an opinion Web site—a visceral reaction to my piece. After reading it, I decided that my initial reaction to the false rumor was far too serious, so I rewrote my editor's note to take out the “oh, where is Web journalism taking us?” whining refrain, although I still believe that journalists should check their facts. Here's what else this whole sequence of events drove home for me.

A Place for News—and Rumors

While some Web sites write stories that are nothing but rewritten press releases, there are sites that practice good journalism. My two favorite sites, *MacInTouch* (<http://www.macintouch.com>) and the *Macintosh Resource Page* (<http://www.macresource.com>), are trustworthy and careful with their reporting, and they take the time to research their subjects. As far as rumors sites go, *Mac OS Rumors* (<http://www.macosrumors.com>) does a great job of reporting Mac rumors

without being misleading. The good folks there practice integrity in their rumor mongering: They are up-front with how likely it is that a rumor is true, and they don't try to pass rumors off as facts. I may get up on my soapbox about sources and fact-checking, but *Mac OS Rumors* offers titillation without confusion—it shows that responsible fact-checking doesn't have to take the fun out of rumors.

A Place for Opinion

Although I disagree with many of the stances taken by the folks who write for *MacOpinion* (<http://www.macopinion.com>), I have to admire the site's mission—to provide a forum for the free exchange of said opinions. Passed off as fact, these screeds would be the height of irresponsibility—but when reading a site called *MacOpinion*, it takes an act of conscious ignorance to mistake the site's content for researched news. These are people talking about the events of the day in the Mac world. The journalist in me just adores the free discourse offered here. This exchange of opinions symbolizes one of the best aspects of the Web, its ability to act as the great equalizer—after all, just about anyone with an ISP account can publish online. This aspect is also one of the most dangerous, because it's not always clear what is opinion, what is a factual article, and what lies in the gray area between the two.

Telling the Difference

The folks who use the Internet to gather information generally are a savvy lot, and those who do it on a Mac are even sharper. Even so, it's sometimes difficult to tell the difference between a well-researched article and some basement dweller's harangue disguised as an article. Think about the so-called big news outlets that have been recently fooled by bogus news—*CNN*, *George*, *New Republic*, *The Boston Globe*, and *Rolling Stone*, to name a few—and you see the problem. If publications that can afford to hire full-time fact checkers have trouble telling fact from fiction, how can the average news junkie tell the difference?

Credibility, common sense, and healthy skepticism go a long way for me. A long history of credible reporting builds trust, and that only comes with time. Common sense

and skepticism go hand-in-hand—if a rumor seems too wild to be true, it probably is (see the NeXT acquisition for a big exception to that rule). View every rumor or news story with just a hint of *they're full of it* floating in the back of your mind. The truth is out there and will generally surface, given time—and the efforts of folks who check facts and report responsibly. (Except for the whole Area 51 thing—I can't understand why no one's talking about it.)

For those who want to trace the merger rumor through its course, the original article appeared on *Recon for Investors* (<http://www.pelagius.com/AppleRecon>), with follow-ups to *Apple Seedlings* (<http://www.applewizards.net/seedlings>) and a posting on *Mac Surfer* (<http://www.macsurfer.com>). I addressed the rumor with my short screed on the *MacAddict* Web site (and with a link on *Mac Surfer*). The final (at least as of this writing) rant appeared on *MacOpinion*.—David Reynolds

Support at the Core

We all know that being a Mac person carries a certain price, especially over the past couple of years. With multibillion-dollar losses, a couple of ousted CEOs, and a meandering, convoluted business strategy, things were looking bleak for Apple, and consequently for Mac users. But that was last year. The first half of 1998 has been full of good Apple news—back-to-back profits, simple and compelling products, and a hardware and software strategy that makes sense. Things are looking bright again, and it's about time.

But nagging doubts still lurk in the back of many a Mac maven's mind, including those who have tied their futures to the platform—namely, graphic arts professionals. With Apple's recent troubles, it's only natural these folks should worry about the Mac's future in their field. Inspired by their doubts, senior editor Robert Capps has been busily researching the issue to find out whether or not the Mac is in danger of being eaten alive in its last stronghold—design and publishing. The results of his quest? The Mac is still the regent of graphics.

Common sense and skepticism go hand-in-hand—if a rumor seems too wild to be true, it probably is.

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letters

Brook, your iMOM called. She wants you to come home right now.

This Month

WRITE TO US: MacAddict, 150 North Hill Drive, Suite 40, Brisbane, CA 94005, or email to letters@macaddict.com. FOR CD PROBLEMS: Go to <http://support.imagine-media.com>. FOR SUBSCRIPTION QUERIES: Call (toll-free) 888-771-6222.



GET ON, GET ACTIVE. Talk to us and to other Mac addicts at the Web site.

VIVA LA REVOLUCIÓN

Hi, I've been reading your letters section, and I have discovered that you have rarely or never printed a letter from the Mac addicts here in Mexico. Despite beliefs that Mexico is a country where Macs don't exist or constitute a very small population, let me tell you that we are growing, and the number of Mac addicts is skyrocketing. Please pay more attention to us. It's not easy to be a Mac addict in a PC country.—LOU HERRERA

WHAT'S YOUR FATHER LIKE?

If one happens to pick up your July 1998 issue upside down due to, say, an overindulgence of alcoholic refreshments, or perhaps a lack of caffeine in the early hours of the day, one notices that your sole comment on the iMac, "WOW!" becomes the profound and



thought-provoking, "iMOM." This a subtle and interesting statement on both the user-friendliness of the new Mac, and how the computer, specifically the Macintosh, has slowly replaced television as the electronic "surrogate mother" of the children of the 20th century. As always, I find your intricate and insightful social commentary evocative and enlightening.—BROOK JONES

P.S. If I'm attracted to the iMac, do you think it means I have an Oedipus complex?

TALK ABOUT OEDIPUS

"What a piece of work is Jobs! How noble in reason, how infinite in faculties, in form and moving, how express and admirable in action, how like an angel in apprehension, how like a god: the beauty of animals. And yet to me, what is this quintessence of dust? Jobs delights not me, nor Gates neither, though by your smiling you seem to say so."—WILLIAM SHAKESPEARE, "MACLET," v. 3.5.1

Just enjoying my G3, Apple's new profits, and Steve the Great.—JIM SNYDER

YOURS HAD GOO?

I loved the goo that held in the Apple poster ad in your July 1998 issue. Please put in more next time.—FAWZI DORMEYER

THEY'RE NOT JUST DISKS

In her article on the iMac (Jul/98, p24), Cheryl England writes, "When was the last time you actually used a floppy disk?" Uh, yesterday. Not everybody who uses a Mac uses

it for gigabyte graphics files. I'm a writer, and I store novels with each chapter as a separate document, so floppies work just fine for me, thanks—even a fat one doesn't come close to filling two disks.—HARRY TURTLEDOVE

Your justification of the omission of a floppy drive on the iMac is way off the mark in its assumption that a floppy would only have been used for transferring files from an old to a new machine. It is true that this can be done in other ways, though in most cases with nothing like the same convenience. The problem is that you have assumed that nobody ever wants to back up a file, but this is generally why they would have those files on all those floppies in the first place, the ones they can't use in the new iMac. I don't know any people, even those who work on (shudder) Wintel machines, who don't back up at least important files, and for this you need some sort of removable medium.—FRED W. SCOTT

While we appreciate that the floppy isn't dead yet, there's little to suggest that it isn't dying. The floppy drive on my Centris 650 at home has been broken for almost four years now, and, aside from being a minor inconvenience at first, I haven't missed it for a couple of years. Of course, I could always spend some money to have it replaced, but I haven't needed it enough to do so. Besides, there will be external floppy drives available for the iMac for people who need them.—DR

WHERE WERE YOU SUPPOSED TO GO TODAY?

Microsoft's ad slogan for Windows 95 was "Where do you want to go today?" Here are alternative slogans for the bloated OS:

- Windows: The colorful clown suit for DOS.
- Double your drive space: Delete Windows!
- Windows and DOS: A turtle and its shell.
- Bang on the left side of your computer to restart Windows.
- Windows 3.1: The best \$89 solitaire game you can buy.
- Windows NT: Insert wallet into Drive A and press any key to empty.
- How do you want to crash today?

—CHRIS J. PAXTON

YOU KNOW YOU'RE A MAC ADDICT WHEN...

...Something great happens, and you tell somebody to shake your mouse, since you must be dreaming.

—JASON LAI

...After hitting Command-Option-Escape in a program with no cursor, you can click the appropriate force quit dialog button on the first try without knowing where you're clicking.

—CHRISTOPHER HUNDT

...A friend asks, "Whaddya think?" and you reply, "Different!"

—MICHAEL CHRISTIE

...Your sister announces she's buying a PC, and you feel betrayed by a member of your own family.

—BOB VERGIS

...You're jotting down some notes on paper when someone interrupts you to ask a question, and your hand starts searching for Command-S.

—AJ DUMAS

PROMISE?

I put my *MacAddict* 23 CD in the CD drive, and when I click on the "stuff" button you tell me that you are camera shy for this month? Yeah right!

Don't do that again, or I'll have to go spank you all!—MICHAEL W. MUNGER

REMEMBER YOUR TITHE

I think that I have truly turned into a Mac addict. I went out and bought sandals, khakis, mock turtle necks, and a "new" used PowerBook! What has happened to me? I think I like it!—JOHN OLSON

LIFE OF THE PARTY

You know [that] you're an anal-retentive Mac addict when you have to write to say that "i.e." means "in other words," not "for example" (which is abbreviated as "e.g."). Eek. What's to become of me?—ERIC "THE RED" NOTKIN

HE'S ON WORK RELEASE

I know who the hell that is! It's prison guy. I know you guys are an equal opportunity employer, but to get the guy off of death row? Those ads look pretty weird...—BRYAN KLOFAS

STEP UP TO HARDWARE

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Our new OrangePC 620 is the best priced Macintosh Windows® 95/98 compatibility card in history. Virtual PC™ and SoftWindows® users can upgrade to OrangePC for only \$449, experiencing a giant step up in performance. In fact, the OrangePC benchmarks** four to twenty times faster than sleepy software emulators.

The OrangePC 620 answers the "price/performance" question by offering true hardware speed at a breakthrough price that every Mac user can afford! It actually has a Pentium® compatible 200MHz processor (user upgradeable to 300MHz) with 16MB of real RAM (user upgradeable to 128MB) on board. This means you can run any PC application on your Mac as fast as a real PC with the ultimate in compatibility.

And the OrangePC's Version 3 software has significant improvements as well. It sports 32-bit drivers facilitating CD-ROM long file names and NDIS3 networking. Our exclusive SnapShot™ feature allows a Windows screen to show the Mac environment inside a Win 95/98 window and, conversely, the Mac screen to display the Windows environment. It's like a "picture in picture" on your TV!

**Benchmark data: Business Winstone 98; Power Mac G3 with 64MB, Virtual PC™ 2.0 vs OrangePC 620, 6X86MXPR200, 32MB, Virtual PC™, OrangePC, and Windows® 95/98 are trademarks or registered trademarks of Connectix Corporation, Orange Micro, Inc., and Microsoft. © Orange Micro, Inc. 1998



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MacWeek Magazine May 1998

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IBM, Motorola Part Ways

More variety for PowerPC

Two roads diverged in a copper wood—and IBM took the one less traveled.

Motorola and IBM, the team that brought you the PowerPC processor, are breaking up. But Mac addicts need not worry, because this is good news. One day you may get to choose between *two* types of processors for your new Mac, instead of just one.

In June, IBM gave Motorola full ownership of the Somerset PowerPC Design Center in Austin, Texas. Although their alliance with Apple, dubbed AIM, will continue, the two chipmakers discontinued collaboration on PowerPC processor designs. However, both companies plan to cooperate closely in the ongoing development of the PowerPC architecture. A joint architectural review board, comprised of senior architecture engineers from Apple, IBM, and Motorola, will ensure PowerPC compatibility between the two chipmakers' processors and Apple's computers.

To keep up with increasing demand for PowerPC microprocessors, Motorola has offered positions to all of Somerset's IBM employees, and will subsequently increase staffing. Adding jobs at Somerset during a time when Motorola plans other layoffs is a sure sign of health for the chip.

IBM and Motorola also plan to expand their use of the embedded PowerPC processor in other industry sectors. Motorola will push the technology in the networking and telecommunications markets. IBM will continue advancing the PowerPC architecture in its high-end server market (two of IBM's four server lines use PowerPC processors).

Tensions between IBM and Motorola began last year over the development of the PowerPC 750 (G3) processor. The expensive 604 chips didn't mesh with Apple's plan to make low-cost but speedy comput-

ers, such as the iMac. But because Apple is the PowerPC's number one consumer, Somerset engineers responded to Apple's needs with the G3.

Apple's needs, however, didn't necessarily fit in with IBM's plans for its server and RS/6000 line. So, in order to support its high-end line, IBM introduced its copper-process technology. Copper chips conduct electricity well and run much faster than the aluminum processors currently used, which peak at about 400MHz. With copper chips, IBM can build G3s that are really fast. IBM wants to use this advantage to sell into Motorola's embedded market.

Realizing this, Motorola developed its own copper-based microprocessor, but the company took its chip one step further. Motorola also introduced its VMX technology, now known as AltiVec (engineers feared the name VMX would sound as though they were catching up to MMX, when in fact AltiVec is a significant leap forward). AltiVec provides special instructions, known as vector processing, that increase the speed of operations such as JPEG compression, video effects, and Photoshop-type processes.

AltiVec dramatically improves multimedia-based applications, but IBM's high-end lines have little use for it, especially since some features that might have been beneficial for IBM's systems were cut to reduce costs. In addition, even though both copper processing and AltiVec are not yet fine-tuned, AltiVec technology currently exceeds the performance limits of the copper-process technology. Conversely, AltiVec's complexity limits chip speeds. By making lower-cost, less-powerful chips, Motorola will most likely not face these constraints in later processors.

IBM has a responsibility to its high-end systems, and continuing the Somerset partnership would have meant compromising those systems' performance and competitive advantage. Instead of collaborating on a design they did not need, IBM chose to break away from Motorola and build fast, more costly copper process G3s.

Now, both companies will pursue separate PowerPC designs. Motorola is happy to build AltiVec parts for embedded DSP applications, albeit with slower clocks than IBM's copper G3s. And Apple will get to choose between megahertz and vector processing in its machines.—*Daniel Fanton*



Illustration by Mike Gorman

Are Your Documents Leaking?

Bug in major programs opens security hole

It all started with an email to our offices from intrepid reader Michael A. Peters, who forwarded an email from Mike Morton to a bug-fix list. In that email, Mike notes that Microsoft Word 98 documents—when opened using BBEdit—contain random bits of data from the user's hard drive, including such information as owner names, URLs, and disk paths, hidden among the garbage and formatting codes. Then the topic surfaced on the Mac-Intouch Web site (<http://www.macintouch.com>), where several readers reported the same problem.

So we decided to try to create our own security breaches using Word 98 and—just for fairness—ClarisWorks. The result? Sure enough, our Word document contained tidbits from our hard drives, including URLs, file server names, file paths, and even a cached bit from our own Imagine Radio tuner. The ClarisWorks document, on the other hand, held no private data.

One theory about why this happens is that these programs may pick up old data from empty sectors that haven't yet been erased. On the MacInTouch site, Chuck Shotton explains that Word ignores the end-of-file marker and instead includes the

00000000Here's my message
 00000000AN(60A9C501-0D00-11D2-REB4-000502E2353B)Sarah McLachlan 'Adia
 00000000st popular these days for producing the Lillith Fair which will

THIS OFFICE 98 DOCUMENT opened using BBEdit 4.5 reveals a snippet from an Imagine Radio cache file. It seems someone has been listening to Sarah McLachlan and thinking about buying a CD.

entire contents of the file's final disk sector as part of the file—even though that data shouldn't be included.

To solve the problem in Word, Chuck Shotton suggests you open the document, choose Save As from the application's File menu, and save the document to a newly erased disk before sending (or giving) it to anyone. Theoretically, the hard drive sectors would contain clean data, and you wouldn't risk the file picking up stray data. Unfortunately, we couldn't get this solution to work. We tried formatting a Zip disk and saving test files to it in both Word 98 and Word 5.1 formats, and both contained the "extra data." If you're particularly paranoid, you can protect yourself by checking the document yourself before sending it just to make sure it doesn't contain any sensitive data. Or you can just take your chances.—*DR*

[illegible]

THERE'S SOMETHING TO BE SAID for simplicity. Our test ClarisWorks 5.0 document contains only an owner name and some styling information, which is legitimate for this kind of document. ClarisWorks gets the highest grade of the three programs when it comes to stopping document security leaks.

Why Mac OS X?

Other than the nifty confusion of X versus 10, Apple has another reason for skipping from Mac OS 8.x to Mac OS X with its recent system software announcements: The title OS-9 is already in use. So even if Apple wanted to go with 9 instead of X as its operating system name, it can't.

Developed by Microware Systems Corporation (in conjunction with Motorola), OS-9 runs on the 68000 family of microprocessors. A variant, OS-9000, runs on Intel386-and-higher and PowerPC processors. Aside from CD-i devices and set-top boxes, OS-9

and its offshoots
run on certain
Amigas, Ataris,

Macs, and other computer platforms. OS-9 even runs X-windows as a graphical user interface. Check out <http://os9archive.rtsi.com/os9faq.html> for the complete OS-9 scoop.

So, Apple's stuck with the jump to 10...er, X. Now what do they do when they release an update—add the Roman numeral? “We here at Apple are proud to announce the release of Mac OS X.V.III?”—*DR*

Hacks of the Year



Illustration by Adam Vanderhoof

Sure, it sounds like fun—72 straight hours of coding, aided by gallons of Jolt cola. But some greater good comes out of it, too—at least for the Macintosh community. It's MacHack, and it takes place every June in Dearborne, Mich. The talented Mac coders who attend are there to produce the goofiest, coolest code ever. This year's favorite hacks have been announced, and here they are:

FIFTH PLACE: Spotlight Hack (David Karnholz). Spotlight Hack creates a hole that moves with the cursor so that users can see through the Finder's windows to the desktop and icons below.

THIRD PLACE (TIE): 180 Years of Hack (P.D. Magnus) and PhaseShift (Ed Wynne, Matt Slot). MacHack history buffs will love 180 Years of Hack, a set of Web pages that commemorate—with faked photos and woodcuts—MacHack over the past 180 years. Is that date right? Nope—Magnus simply had fun with the misprinted MacHack mugs that read “MacHack 1818-1998.” PhaseShift takes the screen saver patterns we all know and love and runs them on the desktop.

SECOND PLACE: OFFPong (Marcus Jager, Quinn “The Eskimo!”). You guessed it—OFFPong is the classic Pong game implemented in the Mac’s Open Firmware. Open Firmware is the low-level memory and instructions that tell your Mac how to boot, so writing anything useful at that level is amazing. With OFFPong, you can play a game of Pong when you power on, and when you’re done, continue to start up.

FIRST PLACE: *asciiMac* (Alexandra Ellwood and Miro Jurisic). The program *asciiMac* converts the Mac's screen into ASCII characters—much like the ASCII art popular in email signatures—and it does it in real time.

To download hacks written during MacHack (you trusting, foolhearted soul), go to <http://www.machack.com>—*DR*

Cupertino Casting Couch

With *Variety* reporting that Tom Hanks and HBO are working on a history of Apple Computer in miniseries form, and Gil Amelio fielding movie offers for his Apple memoir, the time has never been more ripe to consider the all-important issue of casting. Is Steven Seagal too chubby to play Steve Jobs? Does William Hurt have enough star power? After drawing up our own casting ideas and comparing notes with readers on our Web site (see <http://www.macaddict.com/mailbag> for the results), here are a few of our top contenders.—MS

OKAY, PEOPLE,
MORE FEELING!



Illustration by Chris Vanderhoof

The MacAddict Index

Approximate amount of "network software and training" donated by Apple on June 3, 1998 to 2,200 Los Angeles County schools: \$1,000,000

Average amount allocated to each recipient school: \$455

Approximate amount donated by Apple on June 25, 1998 to 10 "leading edge" U.S. schools: \$1,000,000

Average amount allocated to each recipient school: \$100,000

Number of iMacs each recipient school could purchase with this grant: 77

Value in dollars of Microsoft stock held by William H. Gates III as of June 30, 1998: \$56,851,119,075

Number of iMacs Gates could purchase: 43,765,296

FOCUS ON: GET CONNECTED!

Maximum number of devices supported by ADB: 16

ADB's maximum data transfer speed: 0.00015 MB per second

Maximum number of devices supported by standard RS-232-C serial bus: 1

Serial bus's maximum data transfer speed: 0.028 MB per second

Maximum number of devices supported by USB: 127

USB's maximum data transfer speed: 1.5 MB per second

Maximum number of devices supported by SCSI: 7

SCSI's maximum data transfer speed: 80 MB per second

Maximum number of devices supported by FireWire: 63

FireWire's maximum data transfer speed: 50 MB per second

Sources may be found at the MacAddict Web site.—MS

(in order of appearance)

STEVE JOBS	William Hurt (John Robinson, <i>Lost in Space</i>) Ralph Fiennes (Amon Goeth, <i>Schindler's List</i>)
STEVE WOZNIAK	Stephen King
JOHN SCULLEY	(William B. Davis, "The X-Files")
GILBERT AMELIO	Paul Sorvino (Henry Kissinger, <i>Nixon</i>) Don S. Williams (First Elder, "The X-Files") Peter Jason (Gilbert, <i>They Live</i>) William Shatner (James T. Kirk, "Star Trek")
BILL GATES	Rick Moranis (Wayne Szalinski, <i>Honey I Shrunk The Kids</i>)
JEAN-LOUIS GASSEÉ	Kevin Spacey (Roger 'Verbal' Kint, <i>The Usual Suspects</i>)
GUY KAWASAKI	Jackie Chan (Himself, <i>Cannonball Run II</i>) Gilbert Gottfried (Mr. Peabody, <i>Problem Child</i>)
HEIDI ROIZEN	Kathleen Turner (Beverly Sutphin, <i>Serial Mom</i>)
ELLEN HANCOCK	Bea Arthur (Maude Findlay, "Maude")
AVIE TEVANI	David Duchovny (Fox Mulder, "The X-Files")
LARRY ELLISON	Tim Curry (Rooster Hannigan, <i>Annie</i>)
FRED ANDERSON	Les Carlson (Barry Convex, <i>Videodrome</i>)
BILL CAMPBELL (INTUIT)	Bill Pullman (Fred Madison, <i>Lost Highway</i>)
TIM GILL (QUARK)	Sam Neill (Alan Grant, <i>Jurassic Park</i>)

USB versus USSB

After a few rounds of darts and some pretzels, we at the MacAddict Labs started talking about the recent announcement that Universal Serial Bus (USB) technology would find its way to the Mac, and how confusing it would be since the U.S. Satellite Broadcasting company already uses the USSB acronym. So we ordered some more refreshments and tried to sort the two out.—DR



	USB	USSB
Can connect 127 peripherals	X	
Can get hundreds of channels		X
Responsible for lots of new bolt holes in the sides of apartment buildings		X
Responsible for several new holes in the iMac	X	
Hot Swappable	X	
Often sold hot after being stolen (dish only)		X
Vague sense that it's cool but no one really knows what it is	X	X
Costs less than \$100		X
Shuffles digital data around	X	X

Some people think that Norton Utilities for Macintosh is the most advanced troubleshooting utility in the world.



Not quite.

TechTool Pro 2 checks more aspects of your Macintosh than any other utility available. Besides repairing and recovering damaged drives (including those with the new HFS+ format), you can also test all those other critical parts of your system that our famous competitor ignores like RAM, CPU, floppy drives, scanners, modems, internet connections, CD-ROM drives and much, much more.

However, just because TechTool Pro is the most advanced Macintosh troubleshooting utility available doesn't mean that it's difficult to use. In fact, we've added an easy-to-use interface that makes checking and fixing your Macintosh a snap. For the advanced user, our expert mode allows you to control and configure TechTool Pro in almost any way you wish.

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These supercute CD holders are not only colorful—they're flexible. You can put 10 CDs in each side of accordionlike pockets for a total of 20. The case, made of DuPont plastic, resists scratches, heat, and static. I put just about everything in the CD Escort—floppies, Zip disks, receipts, fan mail, my Tamagotchi, gum, pictures, business cards, and so on. Do these precious items ever fall out of the case? Nah. The CD Escort has snap closures that keep contents safe—

PREVENT CDS FROM BECOMING COASTERS.

safe enough that when I carry it around, I feel like launching it into the air, as the man of the Greek sculpture, Discobolos, is poised to do. (But don't try that at home, folks.) The CD Escort's estimated retail price is \$4.99. To see it in all its vivid colors, visit an online retailer or your local computer superstore. Find additional pictures and other Mead products at <http://www.meadweb.com>.—JH



Jam

Aims Lab

Are you a game junkie like me? Do you prefer computer game graphics to game console graphics? With Jam, you can have your cake and eat it, too. Jam is an adapter that allows you to hook up your Nintendo 64 or PlayStation to a computer monitor. Yes, with a simple Macintosh monitor adapter, you can play console games on your Mac display at the clear resolution you want. And you thought watching TV on your computer was already eating up your productivity! *Au contraire, mon frère*. You need to play more games at your stressful job. With a bit of diplomacy, you may even convince your supervisor to join you. Jam features

COMPUTER DISPLAYS WILL KILL YOUR TV.

amplified volume (or line level) out with

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IS YOUR LONELY SERVER ON THE REBOUND?

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ix3D Road Rocket

IXMicro

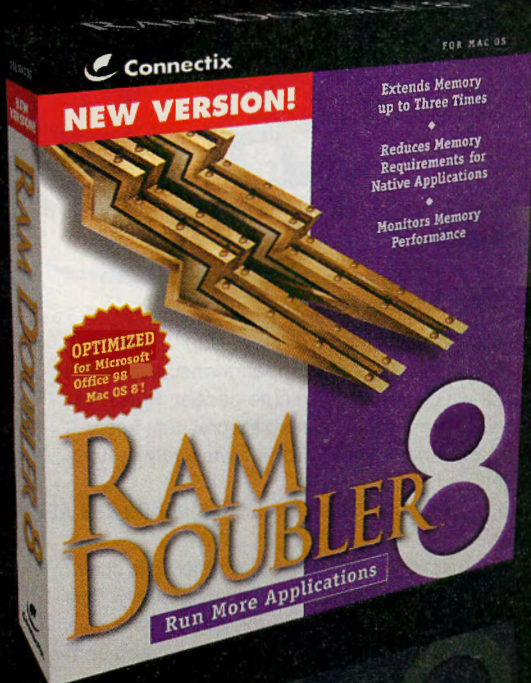
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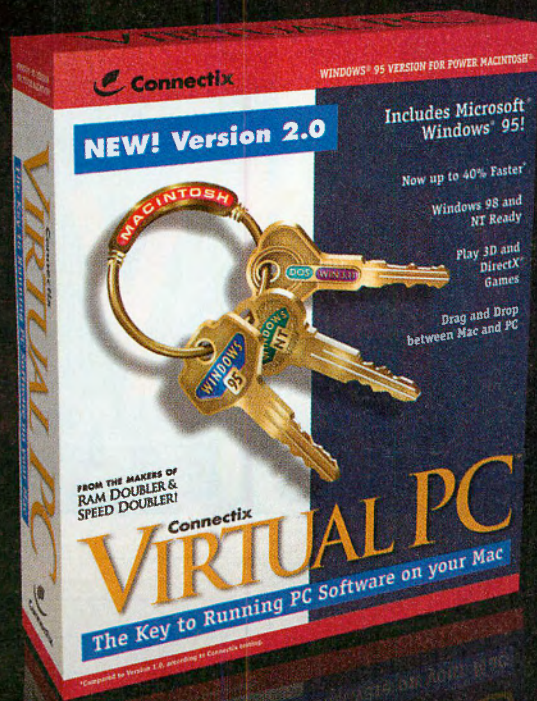
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VISUAL

Microsoft is pushing **Windows NT** as today's inexpensive **server solution**, but it has eyes on the Mac's stronghold: the **desktop publishing workstation**. Does NT really have what it takes to **kill the Mac** once and for all, or is Microsoft just **spooling its wheels**? We went to the *industry pros* to get some answers.

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Why the Mac Continues to Rule Graphics

BY ROBERT CAPPS

PHOTOGRAPHY BY AARON LAUER

ISES

Bill Gates is building an empire. He already owns 86 percent of the world's computer operating system market and has investments upward of \$1.5 billion in telecommunications. His Corbis Corporation possesses the rights to many of history's most famous images (over 20 million images total), and 20 states and the U.S. Department of Justice are suing him for trying to strong-arm control of the Internet—via the Web browser market. But one obvious unconquered realm—the design and publishing industry—still belongs to Gates' longtime adversary, Apple Computer. The question is, for how long?

Microsoft is gearing up for a land grab and it has its eyes set on Apple's territory. Reputation and speculation make Gates' empire seem an unstoppable, market-consuming juggernaut able to own or overrun anyone. But Apple's inevitable defeat is much overstated. The Mac's decade-long position as the publishing standard puts experience, technology, and customer inertia on Apple's side. In this market, Apple's fortress cannot easily be stormed. Separate fear of Microsoft from the truths of the industry, and it becomes clear that not only will Apple hold its publishing ground, it will drive NT right back into its corporate dungeon.

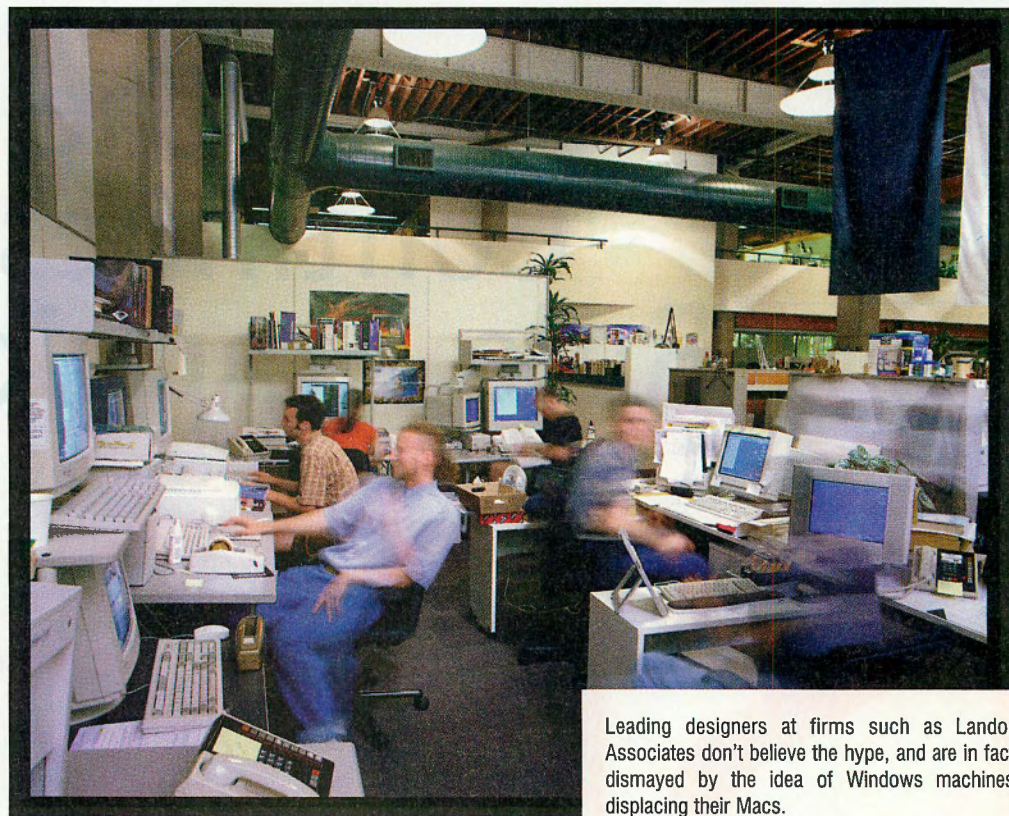
THE FEAR: Microsoft's NT Servers Will Crawl onto the Desktop.

The graphics industry, though largely Mac-based, is not 100 percent Windows NT-free. Apple by its own admission lacks a solid server solution for prepress folks who need to move big files over a network to big printing machines. Unfortunately for Apple, Microsoft partially fills this gap with its NT Server software. The publishing industry likes NT because it sports features, such as protected memory and OS-level (preemptive) multitasking, that make it extremely stable and responsive—important attributes when you're dealing with tight deadlines. Microsoft likes NT because it makes a lot of money for

the company in the server market, and also because of where it might take Microsoft tomorrow—namely, onto your desktop.

"We try to make the experience between managing and using a server and a workstation [client] as seamless as possible," said Microsoft Windows NT program manager Darryn Dieken. "We hope people that put in an NT server will also put in an NT workstation."

One of the big hurdles for NT is Mac users' "fear of the unknown," as Intergraph's director of marketing, Bruce Sholes, put it. Sholes oversees Intergraph's ExtremeZ NT Workstation line, which competes directly with the Mac in the design and publishing market. Sholes



Leading designers at firms such as Lander Associates don't believe the hype, and are in fact dismayed by the idea of Windows machines displacing their Macs.

This is an industry that has 24 hours, 7 days a week, 365 days a year deadlines—you can't spin your way out of that. Our technology is out there today. It's making people money.

—JEFF MARTIN,
SENIOR DIRECTOR OF DESIGN
AND PUBLISHING,
APPLE COMPUTER



promises

knows that many people who use Macs are heavily prejudiced against Microsoft's operating systems. Using NT as a server first is a gentle way of introducing the system to people who otherwise might not give something called Windows a second look. And—once that fear is gone—Intergraph can use the fact that, while NT connects well to the Mac, it connects even better to other NT machines.

"If you're working with NT servers, the communication between an NT machine and an NT server is two to three times faster than it is in a Macintosh environment," Sholes said. Sounds convincing, right?

THE TRUTH: The Mac OS Is Better Than NT for Graphics.

Sure, Microsoft has successfully managed to squeeze NT into the graphics server business (even *Macworld* and *MacWeek* can't help writing about it), but a solid server foundation does not always evolve into a popular desktop solution—just ask Sun Microsystems. To wrest the graphics and publishing industry from Apple, Microsoft will have to make up for some severe technological shortcomings. Apple holds

WHAT'S AN NT?

We know that most Mac addicts would rather cough up a lung than take the time to learn all the ins and outs of a system called Windows. Feeling your pain, we've decided to spare you the agony and cut straight to the point with this quick-and-dirty explanation of Windows NT.

Think of Windows NT as the big brother to Windows 3.31, 95, and 98—Microsoft's operating system of the future, if you will. NT, which stands for New Technology (those clever rascals), offers such features as protected memory and preemptive multitasking that make it the most stable OS Microsoft ever released (we know, that's not saying much). Protected memory, however, allows the system to divvy up RAM among open applications, thus preventing a corrupt application from crashing other apps or the system. (Mac OS 8 doesn't do this and is considered less stable.) Preemptive multitasking likewise allows the system to divvy up the processor so that it can perform several tasks at once, making the system more responsive.

Just to confuse you, NT comes in two forms—NT Server and NT Workstation. Both sport the same interface and run most of the same soft-

ware as Windows 98 or Windows 95. NT Server and NT Workstation feature the same underlying code, but NT Server possesses a few extra tools and tweaks that optimize it for use as a file, Web, or print server (and it features a bigger price tag). More important, however, NT's stability and multitasking make it an attractive option for server use—left to its own devices, it rarely crashes and can perform several operations at once. To anyone working all day on a desktop computer, these ultrastable and responsive qualities make NT Workstation a more attractive client option than Windows 3.31, 95, or 98.

According to NT program manager Darryn Dieken, Microsoft hasn't already gone totally over to NT yet because it has certain consumer-level drawbacks not found in its Windows siblings. These include heftier system requirements—a Pentium 133-or-faster processor, and a beefy 32MB of RAM—and the fact that Windows NT doesn't currently support plug-and-play with external devices. For these reasons, Microsoft views NT as the solution for business and professional users, and Windows 95 and 98 as home-based systems that will help users transition to Windows NT in the future.

If you're working with NT servers, the communication between an NT machine and an NT server is two to three times faster than it is in a Macintosh environment.

—BRUCE SHOLES,
VP OF MARKETING,
INTERGRAPH COMPUTER



for color management.

A second reason the Mac boasts better color

four key technological advantages that block Microsoft from conquering the graphics territory: consistent color management, stable PostScript, reliable font handling, and a popular, easy-to-use scripting language.

Color Management

It is very important to anyone working with graphics to have a file maintain its color across applications and monitors, as well as through output devices, so that the colors in the original design make it into the final product. ColorSync, Apple's system-level color-management technology, does exactly that: It gives a file a profile and maintains the same colors on any ColorSync-enabled device or in any ColorSync-supported application. ColorSync is gaining ground in the industry, and Quark, Adobe, and Macromedia have already adopted it. NT, on the other hand, currently offers no unified system

management is because it is a tightly integrated software-and-hardware system. Compare that to PCs, which have a wide variety of video subsystems in addition to the usual monitors, software, and input and output devices that users of both platforms have to deal with. Although many graphics professionals might not know exactly *why* the Mac's color is so consistent, they do know that it is. "The near-Pantone level you get on your screen is of noticeably higher quality [on the Mac] than you get on the PC side," said Michelle Kenworthy of Pentagram Design, one of the most influential design and branding firms with offices worldwide. She added that reliable color is a big reason that Pentagram uses only Macs and has no plans for switching over to PCs.

PostScript

Windows NT suffers from lousy PostScript, the page-description

language common to all professional-level printers. Apple worked early on with Adobe to produce a clean, mean version of PostScript that works right. Microsoft didn't, and it now pays the price as disappointed prepress professionals struggle with the resulting errors.

Sandy Bozek, who manages the prepress support group at the Chicago technical center of R.R. Donnelley, the largest printer in the United States, sees NT's PostScript problems in action. According to Bozek, NT's PostScript tends to conflict with the imposition software her company uses. (Imposition software takes PostScript files and aligns them onto a large plate for printing.) When these conflicts occur, Bozek either gets a PostScript error message and no printout at all, or a print-positioned plate with misplaced fonts.

"The Mac OS PostScript has been in the market so long it works," Bozek said, though she noted that NT's PostScript is supposed to be more imposition friendly in NT 5.0.

And in truth, NT's PostScript

works better even now. A few months ago, Adobe Systems released a new PostScript driver for NT that may alleviate some of NT's problems. But even so, NT's PostScript has only been in a position to win over the trust of design and printing professionals for the past few months. The same people have been working successfully on the Mac for a decade and see no reason to change.

Fonts

NT's former reliance on TrueType fonts instead of the graphics-standard Type 1 format is yet another reason graphics pros pledge allegiance to the Mac. Until last year, NT didn't work at all with Type 1 fonts; instead, Type 1 fonts had to be converted to TrueType via Microsoft's TrueType converter. Because graphics and prepress professionals overwhelmingly prefer Type 1 fonts, they found NT an almost unacceptable alternative. As with PostScript, NT's font handling received a quality boost when Adobe shipped ATM Deluxe for NT in 1997, but NT still hasn't resolved all of the Type 1 conflicts

that linger from the bad old days.

Microsoft plans to combat this problem by creating its own industry-standard font format and forcing it on everyone else, much as it has done with Internet Explorer, Direct3D, and ActiveX. The company is already in cahoots with Adobe to create OpenType—what Paul Anderson, Adobe's vice president of type and content imaging, called “the great unification of TrueType and Type 1 fonts.” OpenType supposedly will work with current TrueType and PostScript typefaces. It will also support new OpenType typefaces, which will offer more features than Type 1—for example, the ability to substitute ligatures.

Anderson noted, however, that OpenType does not clear up all of NT's current Type 1 font dilemmas—problems still exist with combinations of certain applications, NT, and Type 1 fonts. One of these applications, Anderson said, is QuarkXPress. Because of problems relating to NT's PostScript drivers, NT sometimes reports to QuarkXPress (at least in version 3.3.2) that Type 1 fonts are not available.

OpenType, Anderson said, will not address these concerns.

“The issues we have with Type 1 fonts on NT are known,” said Bur Davis, product marketing manager of Adobe Type Manager. “Whether they will be fixed on NT 5.0... we do not know.” The bottom line, Anderson and Davis agreed, is that the Mac works more reliably with PostScript and fonts.

AppleScript

But that's not all the Mac does better. Microsoft would like you to believe that Visual Basic is a scripting language on par with Apple's own AppleScript, but graphics pros don't buy it. “I can take a fairly logical person and get them to use AppleScript with a minimal amount of training,” R.R. Donnelley's Bozek said. “I can't do that with Visual Basic; it has a much longer learning curve.”

And saving time is what AppleScript is all about. Many prepress services and printers use AppleScript to perform repetitive tasks automatically. R.R. Donnelley, for example, uses AppleScript to automate setting up printer

instructions and moving files from one location to another. Even if Visual Basic were to become much easier to use, AppleScript has already established itself as the default scripting system for the graphics industry. Switching to NT would mean that professionals such as Bozek would have to learn a whole new scripting system and lose all the scripts they currently use.

AppleScript, consistent color, capable font handling, and clean PostScript—none of these technologies are important to people using server software. However, if Microsoft wants to win the desktop battle for the graphics arena, it has a lot of catching up to do, as all of these technologies work only on—or better on—the Mac.

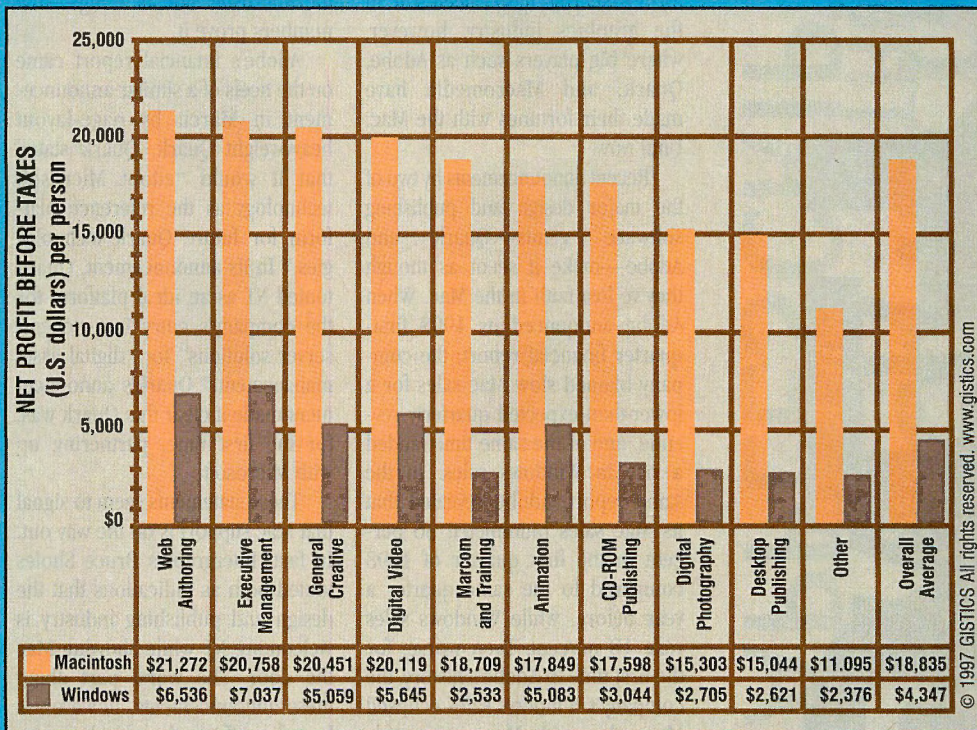
THE FEAR: Mac Developers Are Switching Teams.

In a developer's eyes, Microsoft's technological advantages or disadvantages make no difference if people use Microsoft's system software anyway. And many people do. Windows 95 owns the majority of the desktop PC marketplace, and

NET PROFIT PER PERSON BY PRACTICE

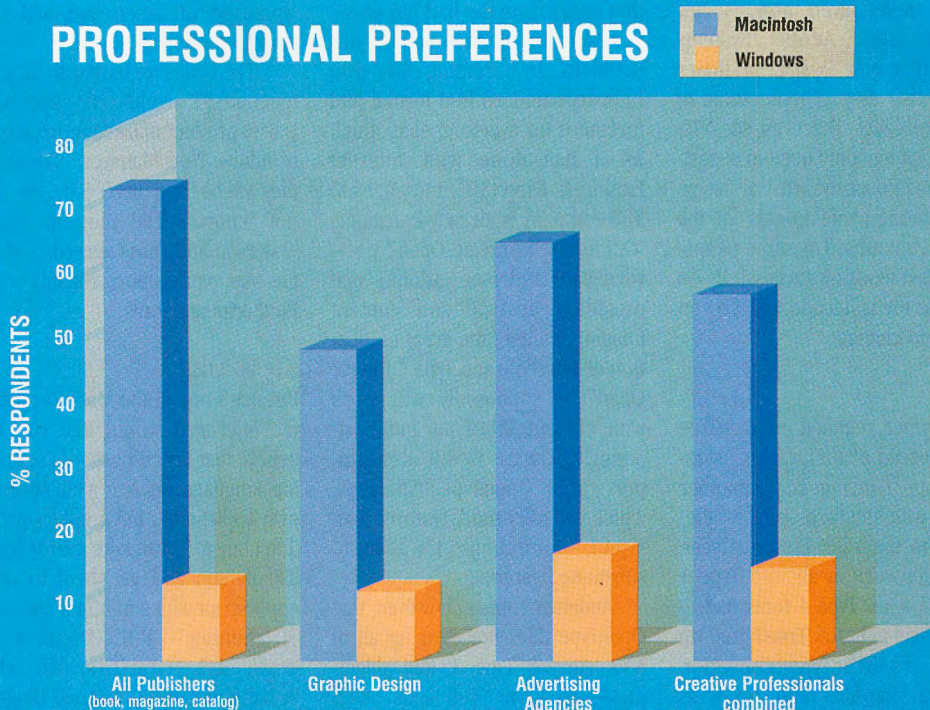
NT MACHINES may seem more affordable than Macs at first glance, but the hidden costs add up. A 1997 survey released by Gistics, a market research company, found that Mac users simply make more money than PC users. On average, Gistics found, a Mac-using creative professional produces \$26,441 more annual revenue and \$14,488 more net profit than a Windows user of comparable skill doing similar work.

The study also states that of the top 10 percent of income earners, 63 percent use the Macintosh as their primary platform. And according to the study, the Power Macintosh user on average makes up to 7.14 times the cost of the computer. Users of Windows NT produce just 2.02 times the cost of their computers. Ha.



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TRENDWATCH TRACKS THE INVESTMENTS of creative professionals—graphic designers, publishers, photographers, ad agencies, and corporate design departments—with a biannual survey. Each year Macs top the list of planned purchases. In June 1997 (the latest study available), the percentage of creative people who said they planned to buy Macs in the coming year hovered at around 55 percent. By comparison, those planning to buy Windows lagged behind at only 15 percent.

any developer who wants to maximize the profit from its product will make it for the Windows platform first. That hasn't been true in the graphics industry, however, where big players such as Adobe, Quark, and Macromedia have made their fortunes with the Mac. Until now.

Recent announcements by two of the major design and publishing software giants—Quark and Adobe—make it seem as though they've lost faith in the Mac. When Adobe announced its 1998 first-quarter financial report, the company blamed slow Mac sales for a lower-than-expected quarterly revenue, and at the same time lauded a rise in Windows sales. In the same report, Adobe revealed that its Mac sales plummeted 36 percent in the first quarter of 1998 compared to the same quarter a year before, while Windows sales rose 18 percent. Even worse, for the first time in Adobe's history, the company's Windows sales eclipsed Mac sales, with Macs accounting for 41 percent of Adobe sales and

Windows accounting for 59 percent. It doesn't just *seem* as though Adobe is reaping giant profits from the Microsoft side of things—the numbers prove it.

Adobe's financial report came on the heels of a similar announcement in March by page-layout heavyweight Quark. Quark stated that it would "adopt Microsoft technology as the reference platform for future Quark technologies." In its announcement, Quark touted NT as an ideal platform for the company's entry into "client-server solutions" for "digital asset management." Quark's announcement made it clear that Quark was, for the first time, partnering up with Microsoft.

These statements seem to signal that Mac support is on the way out. In fact, Intergraph's Bruce Sholes touted both as indications that the design and publishing industry is welcoming NT while showing Mac the door. The worst part about these announcements, however, is how they affect other developers.

"People are afraid the Mac is

going to go away," Pantone senior vice president Richard Herbert said in a phone interview. "Look at Adobe—all its growth is coming from the Windows side."

THE TRUTH: Mac Developers Are Already on the Winning Team.

Adobe's and Quark's announcements sound worse than they are. Adobe is still committed to the Mac, and Quark won't give up while there's money to be made. Although news headlines made the companies appear to be down on Apple, both companies vigorously deny any plans to abandon the Mac.

"The Macintosh platform is not eroding. Our customers are not leaving the Macintosh," said Bryan Lamkin, vice president of marketing in Adobe's graphics division. "A survey we did earlier in the year showed that only 2 percent of the users from that segment have migrated to Windows, and less than 10 percent of those users stated the intention to migrate to Windows in the coming 12 to 18 months."

Lamkin explained that the increase in PC sales came from nonprofessional PC users who want to use Adobe software for corporate or home use—not people who make their living in graphic arts. Lamkin confirmed Adobe's commitment to the Mac, and explained, "Adobe remains very dedicated to serving [Mac user] needs because they still represent the largest percentage of our customer base."

Quark's announcement that it plans to adopt Microsoft technologies for future platforms is misleading as well. The product that will result from Quark's alliance with Microsoft is called Quark Digital Media System, and it is basically a database program for various types of media—TIFF and EPS files, for example—that runs on a server. This system, based on NT Server, in no way affects Quark's development and strategy for its content-creation program,

QuarkXPress.

Quark spokesman Bob Monzel said his company, like Adobe, views the Mac-based professional desktop publishing market as a cash cow—a business-sustaining, money-generating installed user base. But both Quark and Adobe would like to see their products find homes in new markets within the big Wintel world.

"Both platforms remain important to Quark: Windows from a business-growth perspective and Mac from a business-sustaining perspective," Monzel explained. Monzel acknowledged that Quark's announcement was misleading to some (so much so that the press release is prefaced with an announcement of continued support for the Mac), and he explained that leaving the Mac would be just plain bad business for Quark.

"It would be very unwise business [for Quark to leave the Mac].

We have a very big Mac user base, and that would be cutting off that user base," Monzel said.

THE FEAR: Microsoft Will Just Buy the Graphics Industry.

When the going gets tough, Microsoft reaches for its wallet. Why? Because it can. In 1997, the company made over \$11 billion in cash and short-term investments. Microsoft currently spends approximately \$3 billion a year on sales and marketing alone. And that doesn't even take into account the spending power of hardware companies such as Intergraph, Dell, and Compaq, all of which resell Windows software.

This money machine certainly looks impressive next to Apple, which lost over \$1 billion last year, has just a little over \$1 billion dollars in cash, and only spends about \$1.5 billion dollars a year on sales and marketing. And of course there isn't much in the way of financial aid coming from third-party hardware developers.

Microsoft hasn't yet channeled all of its financial resources into conquering the design and publishing industry, but who's to say it won't? And if it does, how will Apple compete?

THE TRUTH: There Are Some Things Money Can't Buy.

Microsoft may have money to burn, but the design and publishing industry could prove harder to buy than a snow cone in hell. Unlike other Microsoft-targeted industries (such as Web browsers and handheld personal digital assistants), publishing is not an emerging market. The industry's computing techniques have been in place for well over a decade, companies are heavily invested and committed to the Mac, and it's the platform on which the developing talent pool is based.

Adobe's Eric Bean, director of product marketing in Adobe's printing division, believes the graphics industry is locked into the Mac with no inclination to switch over. "The dedication [to] and

HYPE VERSUS RIGHT

promises

Aside from the marketing muscle of Microsoft, Windows NT does have a few things going for it—and it has some serious shortcomings that keep it off many graphics pros' desktops. Here's what's right and what's wrong with NT:

WHAT'S RIGHT

- Preemptive multitasking—more responsive
- Protected memory—more stable

WHAT'S WRONG

- No consistent color management
- Error-prone PostScript
- Incomplete font handling
- Lack of systemwide scripting
- Newcomer to a long-established Mac market

reliance of the professional creative community on the Macintosh is unassailable," said Bean. "NT is becoming a stronger, richer platform for that same kind of work, but the depth of commitment to the Macintosh in the market, if anything, is growing."

The numbers, as well as the industry pros, are there to back him up. TrendWatch, a market research firm that tracks the buying trends of creative professionals with a biannual survey, has figures on just how dedicated creative and printing professionals are to the Mac—both list the Mac as their number one planned investment year after year. Of creative professionals, 60 percent plan to buy a Mac within a year.

Wayne De Jager, a technical specialist with Landor Associates—the biggest design and branding company in the world—called



R.R. Donnelley is standardized on what our customers use, and our customers use Macs.

—SANDY BOZEK,
PREPRESS SPECIALIST,
R.R. DONNELLEY



The Mac is far more elegant—far more user-friendly—than the PC is. NT still has the same navigational difficulties that 3.1 did or [Windows] 95 does. It's awkward, and it just gets in the way. It isn't a fluid kind of working process.

—WAYNE DE JAGER,
 TECHNICAL SPECIALIST,
 LANDOR ASSOCIATES

Landor a Mac shop with no plans to move to PCs. He complained that NT still has the same navigational difficulties that 3.1 did or Windows 95 does, and called the operating system awkward and difficult to use. "In terms of design, there's no way to go PC at all," he said.

The printing market segments—commercial printers, typographers, prepress service bureaus, platemakers—agree. According to the TrendWatch survey, 40 to 45 percent of these respondents say they will purchase Macs in the coming year, while only 12 to 15 percent plan to purchase PCs. In fact, only a little over 20 percent of printer respondents said they work with PC files at all.

George Lim, who owns his own design studio in Colorado and is a

member of the American Institute of Graphic Artists, actually profits from the lack of PC support at commercial printers. "[Supporting PCs] is a hard transition to make from the prepress-printer side," Lim said. "They receive an IBM disk from a client directly and they can't use it. We get hired just to create a Mac version."

Lim said his business won't be giving up its Macs anytime soon, and wouldn't switch to PCs even if Apple closed its doors, as his company's Mac investments are in place to last for quite a while. Fortunately, it looks as though Lim won't have to resort to these doomsday measures, as TrendWatch's most recent numbers indi-

cate that the Mac is starting to take back market share. "For the first time ever, we've seen data supporting [migration in] the other direction, from PC to Mac," said TrendWatch's Jim Whittington.

Aside from the obvious monetary investments the publishing industry has in the Mac, the design talent pool—both current and upcoming—is heavily Mac biased. Because design firms such as Lim's, Pentagram, and Landor hire people to work on Macs, graphic design schools train students to use Macs.

Bruce Wands, chair of computer arts and director of computer education at the New York School of Visual Arts, said knowing the Mac is mandatory for designers. The school offers classes on both Mac and Windows platforms, but Wands said the Mac classes get over double the attendance, and he has not seen any change. "The vast majority of design studios in New York are Mac-based," Wands said. "We tell our students that the system they purchase should be the same as their client's."

The entire publishing industry—from the starving student to the accomplished pro—uses Macs, because it's a proven system that works. Microsoft, a company known for bugs, bloated software, and inconsistent technology, will have to win the trust of every single segment almost simultaneously to overrun the Mac in this industry.

"I think the perception is that Microsoft can't lose because they have this critical mass of cash that is so huge that they can spin their way out of anything," Apple's senior director of design and publishing, Jeff Martin, explained. "If your magazine doesn't get out on time, you don't give a damn about what Microsoft is going to promise you in their next release of NT. This is an industry that has 24 hours, 7 days a week, 365 days a year deadlines—you can't spin your way out of that. Our technol-

ogy is out there today. It's working today. It's making people money."

THE FEAR: NT 5.0 Will Conquer and Destroy.

NT 4.0 might not be a Mac killer, but version 5.0 is due to be released in 1998 and has many graphics-friendly features that could heat up the competition. Many of NT 4.0's problems will be fixed and in working order for the next version. Although this won't address the legacy issue, according to Microsoft, version 5.0 will finally push NT onto even technological ground for publishers.

For starters, NT 5.0 promises to include system-level color management. Not only will Microsoft develop a system for NT 5.0, but ColorSync itself will be ported over. And with OpenType, ATM, and PostScript drivers from Adobe, Apple's four-point technological advantage shrinks to just AppleScript.

Microsoft claims that NT 5.0 will feature true plug-and-play capability and use Windows 98's Web-based user interface. NT 5.0 also promises to deliver all sorts of IT administrative perks, such as the ability to install applications on a remote machine and the mirroring of desktop data on a server. This means NT 5.0 will be easier to use and even more attractive to IT departments looking to standardize on a single system.

"NT 5 will surpass where Apple is," boasted Microsoft's Dieken. Dieken pointed to NT's multitasking and protected memory as key advantages that—combined with color management, OpenType, plug and play, and no-hassle PostScript—will make NT a much stronger publishing platform even by Apple's standards.

THE TRUTH: NT 5.0 Will Have to Compete with OS X.

The problem with playing catch-up, however, is that Apple isn't exactly sitting still. Rather, the company just announced the biggest upgrade to the Mac OS since its inception—Mac OS X. NT may soon have color support and completely functional PostScript, but Mac OS X will offer the luxuries of NT—preemptive

multitasking and protected memory.

Apple counts on Mac OS X to keep Microsoft from stealing its turf, and hopes it may even win some new ground by pushing NT out of the server market. According to Apple's Martin, Rhapsody will serve as an interim (Apple's favorite term) server technology, due out about the same time as NT 5.0. Helios, a key RIP software manufacturer, has already announced that it will release software for Rhapsody.

"I honestly believe that we are going to compete so well against NT that it is actually going to help us demonstrate Apple's superiority in publishing," said Martin. "Maybe we'll go from being a complementary server to actually usurping the NT server," he added. "And the best part of that migration story is when they're all done with that Mac as a server, they can recycle it in their company to be a power client. One of the big fears of the NT customer who buys an NT server is, 'How do I recycle this? This will never be a good client.'"

Mac OS X, a hybrid of Mac OS 8 and Rhapsody, won't make its con-

sumer debut until 1999, but the operating system has already received a bevy of endorsements from key design and publishing software makers. Adobe's Greg Gilley even took the stage at Steve Jobs' OS X announcement, not only to state Adobe's support of OS X, but to demonstrate a working port of Photoshop 5.0 done in a few weeks by a couple of engineers.

Adobe's Bryan Lamkin reiterated the company's support for OS X in a recent interview. When he was asked what he thought Apple could do to sew up the graphics market, he flatly replied, "OS X."

"The key advantages of NT over the current Mac OS are stability and multitasking. Those are things that OS X will provide," Lamkin said. "With the things they are tackling in OS X, I think Apple is going to really maximize its impact on the professional publishing market."

The Business of Creation

Design and publishing may be the Mac's last stronghold, but it is also its most fortified. Microsoft can never be discounted as a competitor, but to hurt the Mac, Windows NT must win over the hearts and minds of Mac-dedicated creative pros, and convince them to remove

The key advantages of NT over the current Mac OS are stability and multitasking. Those are things that OS X will provide. With the things they are tackling in OS X, I think Apple is going to really maximize its impact on the professional publishing market.

—BRIAN LAMKIN,
VP OF GRAPHICS MARKETING,
ADOBE

already working systems from their desks and replace them with unproven NT machines. Microsoft's biggest successes are in emerging markets—such as Web browsers—where the company's speed and aggressiveness can prevail before the market is well defined. Design and publishing is not an emerging market, and the things important to this industry—reliability, intuitiveness, and elegance—are not traits the Redmond behemoth is known to exude.

Wayne De Jager, the systems specialist at Landor, explained that the reasons designers like the Mac are not always addressed in technological or monetary arguments. "The [NT] operating system and the way it communicates with itself, and the way it navigates files, all of it would need to become far less awkward—they would basically have to reengineer the thing from the ground up," De Jager said. "It's so hard to make the distinction. It's a very subtle thing and it just has to do with the way it feels and the way it looks and the way it works."

While it may seem that Microsoft has the money, the muscle, and the software support to win over any industry, it's people like De Jager who will need to be convinced. Microsoft has proven itself adept at corporate maneuvering, but it isn't always proficient at satisfying users.

Apple, on the other hand, has a customer advisory board comprised of 25-plus members—all top-level publishers—to help keep the company focused on the end user. This board includes representatives at *Time* magazine, *The New York Times*, Simon & Schuster, *Forbes*, Showtime, and World Color. They tell Apple how to maintain the intangible soul that people such as De Jager find irresistible.

If Microsoft plans to take over the design and publishing industry, it will have to muster a bigger force than NT 5.0. The Mac has the technology, the following, and the lead. It will be the desktop publishing client for years to come.

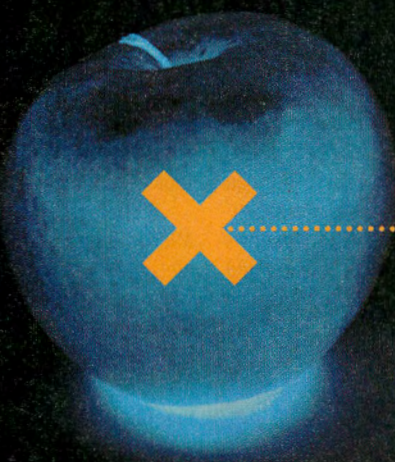
Robert Capps never wants to read about, use, study, hear from, see, or write about anything called Windows again. Ever.



OS X

BY DAVID REYNOLDS

OVER



A SNEAK PEEK AT MAC OS

Mac OS Directions

The sense of déjà vu is more than a little unsettling—an Apple official walks onstage during a developer conference and announces that the Mac OS will be modified to include some of the features of a modern operating system. Existing Macintosh applications, says the official, will be largely compatible with this new OS, and—for those willing to do modest updates to their apps—the new operating system will provide the modern fea-

tures for these applications. Smells like Copland, right? Wrong. It's Mac OS X, and this time it's a different story.

Apple has promised that the newly announced Mac OS X is not only doable, it's mostly a matter of implementation at this point—no “mystery technology” has to be developed in order for it to work. Copland, on the other hand, was based more on theory than reality, and when it came down to actually

implementing what was promised, Copland engineers faced some insurmountable problems. Not so with Mac OS X, Apple says. At the conference, developers were even treated to the sight of a revamped version of Adobe Photoshop running on a prototype version of Mac OS X.

Prior to the arrival of Mac OS X, Apple will release Mac OS 8.5 (also known as Allegro) some time in mid-to-late 1998. Allegro will act as a sort of stepping-stone to Mac OS X, and it

UTURE TO AN OS

8.5 AND BEYOND

promises to be faster and easier to use than previous versions of the Mac OS, which is no real surprise given the recent history of the Mac OS engineering team. In the short space of a year and a half, this team has completed three major Mac OS updates, all right on schedule and all without major problems. One of the primary victories for that engineering team is that the Mac OS has become much more stable. Apple has said that the number one complaint about the

Mac OS used to be the amount of time it took to boot; now, with a more stable Mac, boot time is no longer such a concern, because users don't have to reboot nearly as often.

Apple gave us a sneak peek at Allegro—fourth in the new OS line after Mac OS 7.6, 8.0, and 8.1—and talked to us about where the Mac OS is headed with Mac OS X. And, being the generous souls we are, we thought we'd clue you in on the action.



Find the Mac OS 8.5
Preview Pack on The Disc.

It includes:

- Internet Launcher 1.0.6
- InternetConfig 1.4
- IPNetMonitor
- PasswordSaver
- What's My Password?
- Action Files 1.0 demo
- LiteSwitch 1.0
- NetDoubler demo
- Timbuktu Pro 4.0 demo
- SpeedDoubler 8 updater

Immediate Gratification

Although Mac OS 8.5's release is still some time off, here are some utilities that, if used with Mac OS 8, will give you some of the key new features you can expect in Mac OS 8.5:

■ **NetDoubler**—This bit of software from Asante (<http://www.asante.com>) speeds up network copies, provided you install it on both the server and your Mac. For speedier network performance, check out newer versions of AppleShare IP (<http://www.apple.com>) and Farallon's Timbuktu Pro 4 (<http://www.farallon.com>).

■ **SpeedDoubler**—Also on the acceleration front, Connectix's SpeedDoubler (<http://www.connectix.com>) speeds up file copying and some of its emulated tasks (for PowerPC Macs only).

■ **Action Files**—Although it's not the same as Apple's Navigation Services (which will provide new Open and Save dialog boxes), Action Utilities' Action Files (<http://www.actionutilities.com>) supplies a much improved Open and Save dialog box.

■ **Internet Launcher 1.0.6**—This little utility replaces the Connect To applet provided with Mac OS 8, and allows you to save shortcuts directly to your desktop.

■ **Kaleidoscope 2.0**—Although Apple has not said whether Mac OS 8.5 will exploit the long-awaited themes capabilities, you can add something very similar with the brand-new Kaleidoscope 2.0 (<http://www.kaleidoscope.net>), which should be available as you read this.

■ **LiteSwitch 1.0**—This simple little utility provides the Mac OS with the Command-Tab application-switching ability. Simple and effective, it really works.

MAC OS 8.5

OS X

NEW WAYS TO

SEARCH

The new Mac OS 8.5 search engine allows users to search for files the old way, and it also allows speedy content and Internet searches. The new search engine also takes advantage of the long-awaited VTwin search engine, which is blazingly fast.

SNEEZESEASON—

One way Apple can immediately identify a prerelease version of the Mac OS is by giving the Special menu a special name. In this case it's Sneezeseason. Previously used names include SouthPark and Sequins.

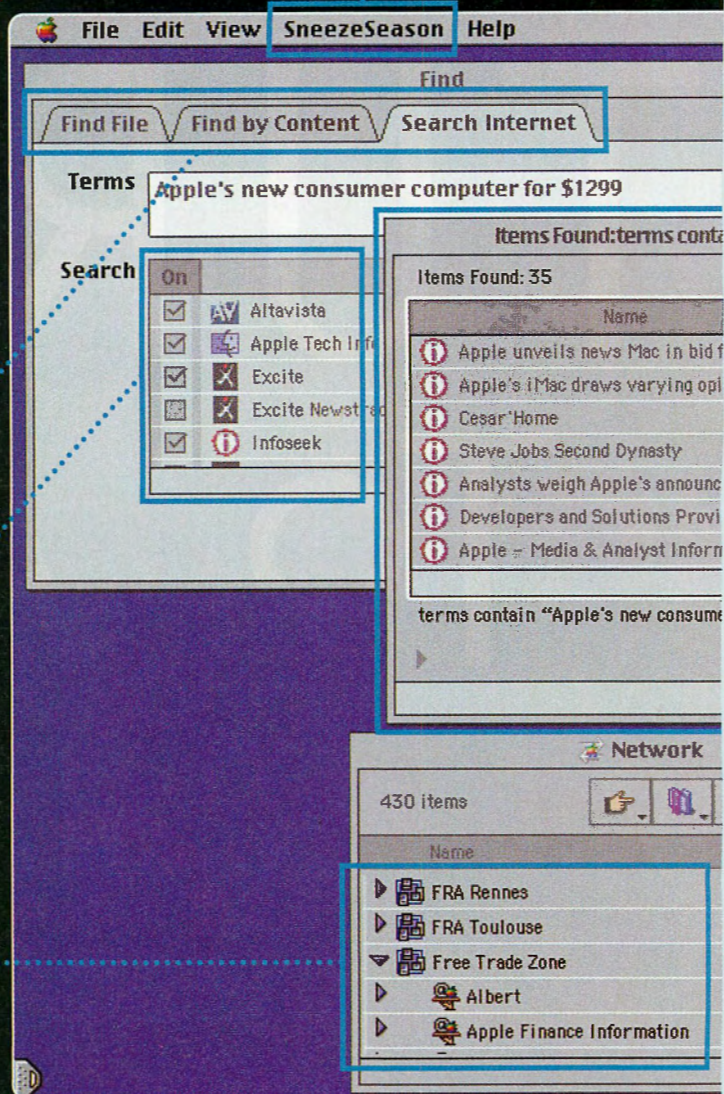
MULTIPLE SEARCH

SOURCES—When searching the Internet via the new Find functions, Mac OS 8.5 users can select from numerous Internet search engines and submit several queries to them—all from the Find dialog box.

NEW NETWORK

BROWSER

Mac OS 8.5 includes a network browser that makes browsing local area networks easier by displaying available servers in a Finder-like list view.



Mac OS 8.5

On the surface, Mac OS 8.5 (which goes by the code name Allegro) is not as ambitious a project as Mac OS 8, but that makes sense; after all, it's only a 0.5 upgrade, not a full version-number jump. While it can't match Mac OS 8 in terms of number of new features (or hype), Mac OS 8.5 offers improved performance and ease of use, as well as some new features culled from the digital organ donor that was the Copland project—the failure that keeps on giving.

Performance

Apple folks are thrilled that Mac OS 8.5 copies files faster than its predecessors—either over a network or between hard drives. They almost gilled in delight when reporting that an alpha version of Mac OS 8.5 could saturate a 100-megabit

Ethernet connection, and the enthusiasm hardly dipped when Apple officials noted that Mac OS 8.5 can do network copies at 8 MBps—almost twice what Mac OS 8.1 can deliver. With its new, completely native version of AppleScript, Mac OS 8.5 ramps up AppleScript performance three to five times (and just to make things more interesting, Apple plans to make everything in the OS scriptable). Finally, the QuickDraw graphics routines (the heart of how the Mac OS displays *anything*) have gone PowerPC-native, which should increase the speed with which those pixels get pushed to the display.

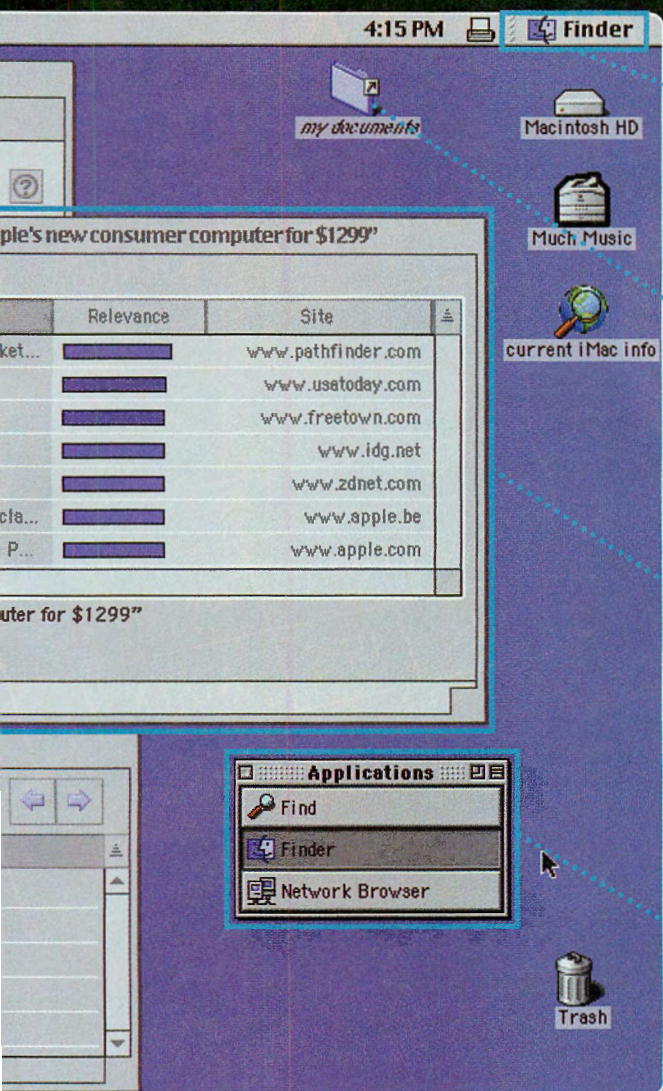
Ease of Use

One of the sexier features of the new Mac OS is a completely revamped search engine. VTwin has

finally made its way into the Mac OS, which means that searches should be lightning fast. Also, a new interface allows users to search their hard drives by file name or attribute (the old way) or by content in documents. The find function is linked to several Internet search engines, so if you're looking for something online using Mac OS 8.5, you can just type in a phrase and start searching. Mac OS 8.5 will go to the ends of the globe—literally—to find it for you.

Apple came late to the Internet party, but fortunately the kegs hadn't yet gone dry. With Mac OS 8's Internet assistant, setting up an Internet configuration is as easy as answering a few questions. Mac OS 8.5 goes one step further and helps users manage existing Internet configurations. It also supports Internet aliases on the desktop.

As part of the new Navigation Services technology, Mac OS 8.5 offers a much-improved Open and Save dialog box. The original hasn't been updated for years, and the new version makes



NEW APPLICATION

MENU—The current application name is displayed next to the app's icon in the application menu. The striped thumb indicates this menu can be modified.

CHANGED ALIASES—

With the addition of the little arrow-in-a-square, alias icons now suspiciously resemble Windows Shortcuts. While we don't necessarily like the addition of a Windows element, we have to admit the ability to identify an alias visually is a good idea. This arrow first made its debut with the Command-Option-drag alias-creation function in Mac OS 8.

NEW FIND RESULTS

WINDOW—Part of the new Find File functionality, the Items Found window in Mac OS 8.5 displays information found on local drives and on the Internet. Also, found items come tagged with an indication of how relevant the information is and where it appears on the Internet.

NEW APPLICATIONS

WINDOW—To help give users a "sense of place" in Mac OS 8.5, Apple added a new Applications window that makes it easy to see what applications are open and which application is currently active. Users can move from one application to another with a simple Command-Tab.

navigating and finding files from within an Open and Save dialog box much easier. Currently, the commercial utility Action Files 1.0 provides similar improvements. Look for a demo on The Disc.

What started out as a way to help beginning users know what applications are running and which application is currently active has morphed into a power-user feature. Mac OS 8.5 sports an Application floating window that lists all of the currently running applications. A simple Command-Tab lets users switch among applications, without mousing up to the Application menu. Currently, LiteSwitch 1.0 and a host of other utilities do the same thing. LiteSwitch 1.0 is included on The Disc.

Mac OS 8.5 is meant to be a stepping-stone to Mac OS X. Developers who update their applications to work well with Mac OS 8.5—including adopting the updated Open and Save dialog boxes—will be closer to making those applications Carbon-compliant as well.

The Skinny on 8.5

What's there:

- **Higher performance**—Faster network copying, PowerPC-native QuickDraw, VTwin searching—it all adds up to speed.
- **Native AppleScript**—Expect AppleScript to be three to five times faster with the PowerPC-native version. Also, Apple aims to make everything scriptable, so look for AppleScript to become more versatile, with control over such things as Open Transport configurations.
- **Easier to use**—Mac OS 8.5 is easy to use, especially when it comes to the Internet. Advanced Open and Save dialog boxes, faster Find commands, and easier Internet configuration managers are only part of the package.

What's uncertain:

- **Switchable themes**—Apple hasn't decided how—or whether—to deliver switchable themes (customized windows, menus, and interface items). However, Appearance Manager 1.1 will feature built-in support for switchable themes, should Apple decide to produce them.
- **PowerTalk Keychain technology**—Although engineers are busily working on it, Apple isn't sure that the Keychain technology—which allows you to store all of your passwords in one convenient place—will be ready for Mac OS 8.5.
- **Supported Macs**—Apple hasn't disclosed which Macs will be able to run Mac OS 8.5. Expect an announcement shortly after Macworld Expo.

CORE OS AND MAC OS X

OS X

ENVIRONMENT NAME: Carbon

WHAT WILL RUN THERE: Mac OS X applications.

This is the part of Mac OS X that will handle Mac applications revised to meet the Carbon standard. These applications will get all of the buzzword goodies that come with Mac OS X—such as preemptive multitasking and protected memory.

ENVIRONMENT NAME: Blue Box

WHAT WILL RUN THERE: Mac OS 8 apps, control panels, and extensions.

This is a modified Blue Box derived from Rhapsody. Applications running in the Blue Box environment will look and feel like Carbon-compliant applications, except that they won't get the benefits—preemptive multitasking, protected memory—that Carbon-based applications will get.

POSIX (file system, network protocols)—This

stands for Portable Operating System Interface for Unix. POSIX-compliant software is easily ported to run on a POSIX-compliant system, which means Mac OS X will be a natural target for POSIX-friendly software.

This is the part of Mac OS X where support for drive formats (such as HFS and UFS) and network protocols (such as AppleTalk and TCP/IP) will be found.

BLUE BOX

CARBON

VFS

SKT LAYER

HFS

UFS

ATALK

IP

POSIX

Mac OS X

Back in May of this year, Steve Jobs surprised everyone by announcing that his team would succeed where the Copland team had failed, arming the Mac OS with preemptive multitasking, protected memory, and speedy input and output. According to Jobs, this new version of the Mac OS would be able to run today's Mac OS applications (but without the benefits just mentioned) and provide modestly updated applications with all of those buzzword features that the Mac OS has been lacking for years. Currently the typical Mac OS application is already about 90 percent ready to work with Mac OS X; developers need only modify the remaining 10 percent. Contrast that with having to rewrite an entire applica-

tion to get it to work with Rhapsody.

Developers of apps for the existing Mac OS cheered. This meant

they wouldn't have to face the choice of leaving the Mac platform or entirely rewriting their applications. Instead, current Mac OS developers faced a mere update, something to which they were willing to commit. Adobe, Microsoft, and Macromedia immediately voiced their support, which they hadn't done for Rhapsody. Individual Yellow Box developers, while initially queasy about Mac OS X's taking the spotlight, were happy to hear that the Yellow Box is alive and well and will be included in Mac OS X.

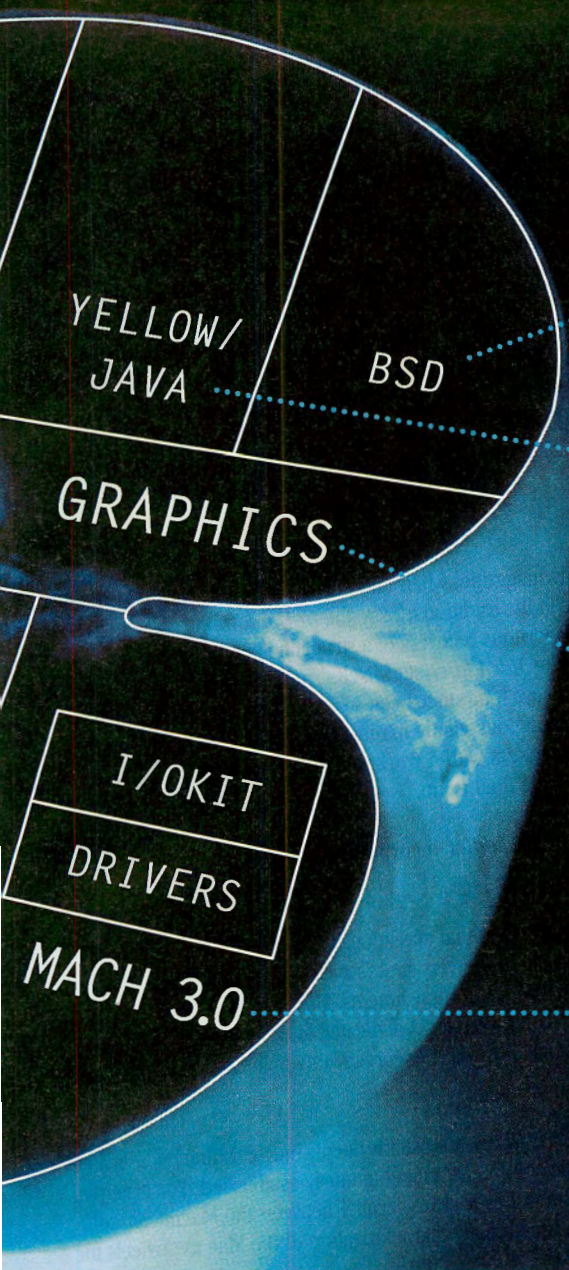
With Mac OS X, developers will be able to choose from four different ways to develop their application, depending on its function:

■ **Blue Box**—This is a modified version of

Rhapsody's Mac OS compatibility environment. Most Mac OS 8 applications will run—unmodified—here. They will be indistinguishable from other Mac OS X applications, except that they won't take advantage of Mac OS X's modern features. If one non-Carbon application crashes, it might take all of the other non-Carbon apps with it; however, Mac OS X won't have to be restarted, and Carbon (or Yellow Box) applications will be unaffected.

■ **Carbon**—This is the modified version of the Mac OS Application Programming Interface. Most familiar Mac OS applications will be rewritten using the Carbon API set, which gives existing Mac applications more stability, speed, and responsiveness.

■ **Yellow Box**—This was touted as the solution for all Mac developers a year ago; now it's where those who have existing OpenStep applications (or those who want to create a cross-

**ENVIRONMENT NAME:****BSD (Berkeley Standard Distribution)****WHAT WILL RUN THERE:** Recompiled applications written to run on BSD versions of Unix.

There are a ton of apps—such as Web servers, print servers, and development environments—just waiting to be recompiled to run in this part of Mac OS X.

ENVIRONMENT**NAME: Yellow Box and Java****WHAT WILL RUN THERE:** OpenStep and Java applications.

Although it's something of an artificial mix, this is where both recompiled OpenStep apps and Java apps will run. Think of it as the cross-platform part of Rhapsody.

GRAPHICS—Every

part of Mac OS X will have to share the graphics engine in order to display anything. This new Graphics layer will be a modified version of the venerable QuickDraw graphics engine, which has been chugging away in the Mac OS for many years.

MACH 3.0—This is

the core kernel that sits on top of hardware and handles the basic operating system functions, such as memory management, input and output, and talking to hardware (hard drives, mouse, monitor, and so on).

platform app) will develop their applications. Yellow Box applications will get the modern operating system benefits that Mac OS X offers.

■ **Java**—Apple has promised to provide a fast—even by Wintel standards—and compatible Java Virtual Machine for Mac OS X, and it already allows developers to use Java as a programming language to create Yellow Box applications.

A fifth application space will be available for recompiled Berkeley Standard Distribution Unix applications. Known as BSD, this flavor of Unix has been popular for some time, and Mac OS X will offer some compatibility with applications of that persuasion.

Despite what certain pundits have reported, Mac OS X would not have been possible without the benefit of Rhapsody development over the past year. While working on Rhapsody (and Blue Box), Apple engineers learned how to do many of the things that make Mac OS X possible.

Mac OS X is more than Rhapsody with a space for Mac OS applications, and it's more than the Mac OS hosted on Rhapsody's Mach kernel. A true fusion of Rhapsody and Mac OS, Mac OS X will use much of each to create something greater than the sum of its parts. Mac OS X also will keep some of the Unix power-user layers mostly hidden from view, so that they're available if people want to take advantage of them but otherwise remain invisible.

So what about Rhapsody? The first—and last—releases will be sold this year as Rhapsody Customer Release 1.0. This release will run on both Power Macintosh and Intel-based computers, and it will be aimed at those who need a great server operating system, or those who want to do Yellow Box development. After that, look for Apple to turn its entire focus to the Mac OS.

David Reynolds vows not to get excited about or interested in Mac OS X for fear that his curse will come into play.

The Skinny on Mac OS X

- **Highly compatible**—Mac OS X will run Mac OS 8 apps as well as Carbon-based apps.
- **Fast**—Mac OS X will be PowerPC only. The main operating system will include no 68K code to bog down PowerPC machines.
- **No Extensions**—The source of a lot of Mac crashes, Extensions will no longer exist.
- **New Control Panels**—These will be turned into applications to avoid Extension conflict problems.
- **Buzzword compliant**—Mac OS X will have preemptive multitasking, fast input and output, and protected memory.
- **Better Virtual Memory**—Its modern memory architecture means that Mac OS X's virtual memory will always be on.
- **First beta**—March 1999.
- **Final version**—September 1999.
- **What it will run on**—Targeted for G3 Macs.



BLUFFS NOTES on

By Mark Simmons

\$3.95

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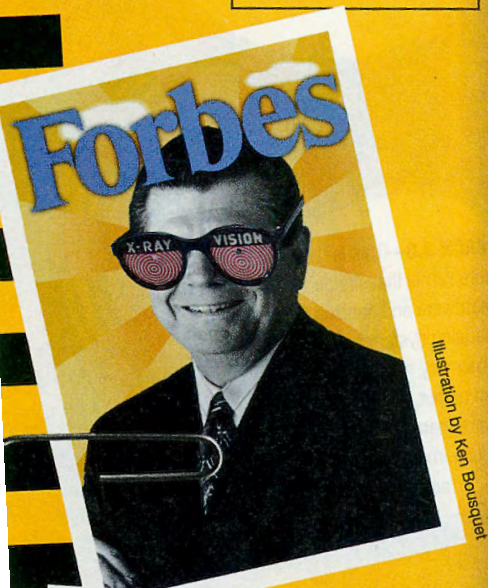


Illustration by Ken Bousquet

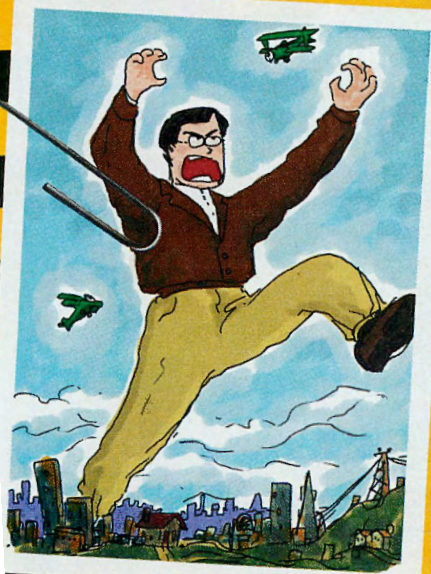


Illustration by Mark Simmons

MACADDICT

A NOTE TO THE READER

THESE NOTES ARE NOT A SUBSTITUTE FOR THE MAGAZINE ITSELF OR FOR THE INTEGRATED CD-ROM AND WEB SITE, AND READERS WHO ATTEMPT TO USE THEM IN THIS WAY ARE DENYING THEMSELVES THE VERY INFORMATION THAT THEY ARE PRESUMABLY PAYING \$7.99 AN ISSUE (\$8.99 CANADA) TO OBTAIN.

THE MANUSCRIPT

Though published in the form of a monthly magazine, when taken as a whole, *MacAddict's* first two years can be seen as a grand narrative epic in the tradition of, say, the *Götterdämmerung*. In this 24-part saga, we see the tragic decline and the perilous recovery of a struggling computer company, paralleled by the intrigues and adventures of the *MacAddict* staff itself. Though most of the issues that constitute this epic are now out of print, and have long since been sealed in collectors' lead-lined storage boxes or plowed into mass landfills by litigious candy manufacturers, this condensed guide to *MacAddict's* first two years should provide readers with a workable understanding of the story thus far—and enable them to cheat on the inevitable final exam.

As a prose epic in the grand tradition, *MacAddict* incorporates all the best literary devices, including...

Irony: Due to *MacAddict's* heavy use of irony, passages that may appear optimistic or naïve often reveal contradictory meanings when read more closely. In the very first issue, then recently installed Apple CEO Gil Amelio is credited with a laundry list of 35 accomplishments. However, fully a third of these involve the words "announced," "promised," "committed to," "dedicated to," "focused on," and other subtle negations, while the inherent sarcasm of such words as "reorganized Apple" and "assumed head R&D role" should be obvious.

Allegory: Though the allegorical elements of *MacAddict* are usually deeply buried within complicated layers of subtext, there are instances where metaphors are unambiguously established. For example, March 1998's "Nitro-burning Funny Macs" establishes a clear parallel between the Macintosh computer and the automobile, harkening back to the archaic characterization of the Mac as "wheels for the mind."

Foreshadowing: This important literary device is frequently employed in *MacAddict*, as in the May 1997 Shutdown cartoon predicting "a massive growth in Jobs." More often, it is combined with irony; an October 1996 Get Info article posits, "If Apple can follow through on the rest of its Internet strategy as well as it has with Cyberdog..."

Palindromy: While not used as heavily as simple alliteration ("Facing Up To Fonts") or the classic cheesy pun ("Stand By Your Mac," "An URL in Every Port"), this device can be seen on the cover of the July 1998 issue—"Wow!"

BRIEF SYNOPSIS

The *MacAddict* saga can be divided into two parts, each consisting of 12 issues. The Amelio cycle begins with the September 1996 debut issue and the memorable cover line, "Why the Mac's Future Is Bright," and ends with August 1997's "Mac OS 8 is... Grrr8." The Jobs cycle begins as the September 1997 issue brings news of Gil Amelio's exile; it concludes with the August 1998 issue, which describes a triumphant Steve Jobs, who has not only remade Apple's product line and system software in his own image, but also has decolorized the company's rainbow logo and razed the legendary Icon Garden.

The *MacAddict* saga has been criticized—unfairly, we think—as a simple update of Shakespeare's *Richard III*. Certainly, it's a small step from the first issue's "Dr. Amelio appears to have the right prescription for getting Apple back on its feet" to Shakespeare's oft-paraphrased "Now is the quarter of our discontent made glorious summer by this sun of National Semi." And Jobs—working behind the scenes to eliminate his rivals, engineer Amelio's demise, and then allow himself to be thrust "unwillingly" onto Apple's throne—reprises the rise to power of Shakespeare's conniving rascal. But we digress...

As the first cycle begins, we find the Macintosh platform already in the throes of crisis. In literary terms, we're starting in medias res, with the narrative already underway. A new leader has just been installed, and though he finds his kingdom in grave disarray, Apple CEO Gil Amelio has the trust and confidence of the Mac community as he begins his turnaround efforts. The mythical Mac OS 8, headlined in a demo on the first issue of *MacAddict's* CD-ROM, is swiftly terminated and a new plan is proposed.

To secure a long-term future for the Mac, Amelio procures a struggling software company led by Apple co-founder Steve Jobs and arranges a Rhapsodic marriage between its NEXTSTEP operating system and Apple's Mac OS. In the meantime, Mac OS 8 is refashioned as a less ambitious but still compelling upgrade, whose arrival at the close of the Amelio cycle is one of the high points of the saga's first portion. Meanwhile, Amelio's inability either to fix Apple's finances or to deliver hardware products that meet *MacAddict's* exacting standards proves to be his undoing...

The Jobs cycle starts with one last hurrah for full-bore Microsoft-bashing Mac advocacy, as the September 1997 "Fight Back!" anniversary issue outlines strategies for countering the Windows threat. But in the very next issue it's revealed that Jobs has negotiated a truce with the enemy, while simultaneously declaring war on the hitherto cherished Mac clonemakers. Once the shock wears off, *MacAddict* enthusiastically embraces the new regime and symbolically deifies Jobs on its January 1998 cover.

The "Mega Makeover" touted by the April 1998 cover is paralleled by *MacAddict's* own ideological makeover. In this issue we find the magazine embracing the new Microsoft Office, continuing to phase out its garish color scheme in favor of low-key pastels of the sort favored by Jobs, and introducing a new editor as "grizzled stub" David Reynolds replaces "cute as a bug" Cheryl England. By the end of this second cycle, Jobs is unquestionably ascendant, buoyed by the financial success and killer product line that had eluded his predecessor. *MacAddict* has evolved in sync, and it appears that the dawn of the third cycle will find it intense, serious, and no longer possessed of the smart-alecky wit required to waste precious page space on self-indulgent satirical pieces.

TERMS TO REMEMBER

David Reynolds Favorite Technology Curse:

A consistent narrative theme noted by *MacAddict* scholars. Throughout the *MacAddict* saga, any technology or enterprise lauded by editor David Reynolds is ultimately destined for oblivion or irrelevance. A few of the many examples are OpenDoc component software, Apple's Rhapsody operating system, the BeOS, the CHRP platform, chipmaker Exponential Technologies, the PNG graphics format, and the entire field of Mac OS licensing.

Troubleshooting: According to the *MacAddict* worldview, a cosmic balance exists between the Mac's beneficial qualities and its penchant for malfunctions and inexplicable glitches. In order to reap the benefits of Macintosh ownership, the reader must adhere to a regimen of supplication and maintenance, extending, claims June 1997's "Coming Clean," even to the physical cleansing of the computer's components. At the same time, features such as July 1998's "Hack Your Mac" reflect a streak of hubris that compels the Mac addict to tamper with the cosmic balance.

Cupertino: The legendary home of Apple Computer. Like the mythical Olympus or Asgard, it's the home of a race of bickering gods whose petty politicking controls the destiny of the Mac community. The removal of the fabled Icon Garden, chronicled in the August 1998 issue, marks the end of the second cycle of *MacAddict* and may foreshadow either Ragnarok or renewal.

Microsoft: At first demonized as the source of all evil in the computing industry, Microsoft serves as the butt of practical jokes and—as embodied in the Windows operating system—the implicit target of September 1997's defiant fist. But at the same time, Microsoft's Internet Explorer and Office suite prove tempting to the stalwart Mac addict. When Apple's presumed savior symbolically redeems Microsoft, it can be seen as an allegory either of the universal nature of forgiveness or of the irresistible seductiveness of evil.



bluffs

ALLEGORY-O-MATIC

Save even more valuable time by recycling allegories from other great works in the Bluffs Notes series!

Steven P. Jobs=
King Richard III (*Richard III*),
Prospero (*The Tempest*)

Gilbert F. Amelio=
King Edward IV (*Richard III*),
Piggy (*Lord of the Flies*)

Cupertino=
Valhalla (*Ring of the Nibelung*),
Camelot (*Le Morte d'Arthur*)

Kathy Tafel=
Sir Galahad (*Le Morte d'Arthur*)

William H. Gates III=
Mephistopheles (*Faust*)

The Prison Guy=
Abel Magwitch (*Great Expectations*),
Raskolnikov (*Crime and Punishment*)

Wade Albright=
Satan (*Paradise Lost*),
Holden Caulfield (*Catcher in the Rye*)

Windows =
Soma (*Brave New World*)

Amelio's 1997 Macworld SF
Keynote Speech =
The Faerie Queen, *War and Peace*



REVIEW QUESTIONS

1. What does Cheryl's height symbolize? Is she really "cute as a bug"? Are bugs cute? If so, why?
2. What key character trait led Kathy and Wade to such different fates? Is it just that Wade is evil, or is it something else? Is the name "Albright" a reference to "Lucifer," that is, "light-bringer"?
3. If the Amelio/Jobs saga is just a modernized riff on *Richard III*, then why is Jobs pursuing a high-performance, low-price strategy instead of plunging the Mac platform into war and chaos? Are these mutually exclusive? Explain.
4. Could Richard III have eliminated his rivals and seized the throne if he'd had Larry Ellison telegraphing his every move? ("Oh yeah, Steve's gonna kill those little princes in the tower. He told me all about it last weekend when we were hiking up at Big Sur.")
5. Is cloning inevitably doomed to end in tragedy, even without the endorsement of David Reynolds? If yes, justify your position without quoting Mary Shelley's *Frankenstein*.
6. Is it morally wrong to "Hack Your Mac"? Doesn't that sound a bit gruesome and Gothic?
7. What does the Prison Guy symbolize, anyway?
8. Why, on the May 1997 cover, do the "Right-Brain" and "Left-Brain" captions point to the left and right sides of the brain? What's the significance of the logical left-brain side being colored *MacAddict* green and purple?
9. Which would win in a fight, OpenDoc or the Yellow Box?

MacAddict Webmaster Mark Simmons embodies the postmodern motif of the "unreliable narrator."

MacUser: A fellow Macintosh magazine, eulogized by Cheryl England in *MacAddict*'s November 1997 issue. Cheryl's retelling of the *MacUser* saga recounts its origins as an impassioned rebel, its gradual decline into complacent middle age, and its ultimate demise. In so doing, Cheryl implicitly posits *MacAddict* as the inheritor of *MacUser*'s former rebel ethos.

WinAddict: The fictional evil alter-ego of *MacAddict*, and the subject of a satirical story-within-a-story in April 1997's editor's note. This parable recounts *MacAddict*'s purchase by Microsoft and details the conversion of each of its staff members, conveying a cautionary message about the inherent corruptibility of all Mac addicts. In this story, only the pure Kathy Tafel escapes the taint of evil.

LIST OF CHARACTERS



Gilbert F. Amelio: The central figure of *MacAddict*'s first cycle. Amelio goes from being lauded in the September 1996 premiere issue to being curtly dismissed in a sidebar to September 1997's editor's note. His yearlong fall from grace sets the stage for the reemergence of Steve Jobs, creating a narrative crisis that calls for a dramatic resolution.



Steven P. Jobs: The enigmatic co-founder of Apple, who returns in the second cycle of *MacAddict* to seize control of the company, is initially depicted in an ambivalent light: "Insanely great or greatly insane?" asks the October 1997 cover. The ambiguity is resolved three issues later, when a beatific cover portrait of Jobs depicts him as a divine being, here to "save Apple." But if Jobs is the savior, he's the Apocalyptic type, returning on the occasion of the Millennium to "kick ass."



Steve Wozniak: Though his status as co-founder of Apple would seem to make him a major character in the *MacAddict* saga, the legendary "Woz" makes only a brief appearance (in the June 1997 issue).



William H. Gates III: As the personification of Microsoft, Bill Gates plays only a symbolic role in the *MacAddict* saga, and is in effect interchangeable with his company. However, by giving Microsoft a physical face, he makes it possible to apply devil horns, infernal flames, and cream pies to the otherwise untouchable menace.



Cheryl England: Originally *MacAddict*'s editor in chief, currently publisher and editorial director. Though her impish demeanor and diminutive stature make her appear cute and nonthreatening, the *MacAddict* staff appear to regard her with awe and fear—for example, see March 1998's revelation of her reptilian nickname. By implying that the reader and the staff have different points of view, this inconsistent depiction of Cheryl acts as a distancing device.



Max: *MacAddict*'s mascot. Though he embodies the magazine, he can sometimes be seen commenting on or interacting with its contents, or even (as on the cover of the March 1997 issue) being threatened by them. Thus, this two-dimensional sprite is an independent entity who inhabits *MacAddict*, simultaneously representing the reader, the magazine, and a third point of view that both acts and is acted upon. Also, he seems to be gradually losing his eyebrows.



The Prison Guy: Introduced in the second cycle of the *MacAddict* saga, this menacing and mysterious figure has yet to align himself with any of the contending forces in the narrative. Like the "interim" status of Steve Jobs, he is probably an artifice to add a sense of danger and suspense.



Kathy Tafel: Kathy is employed as a symbol of the purest and most faithful Mac addict. In April 1997's WinAddict parable, she is the only one to reject the temptation of evil; like a Viking warrior summoned to Valhalla, she eventually ascends to Cupertino, leaving her presumably less worthy comrades to continue the fight.



Wade Albright: The converse of the moral exemplar embodied in Kathy Tafel, this long-time CD-ROM editor is at first the most dedicated of the Mac addicts. His PC-bashing escapades, and his starring role in the February 1998 epic "It's a Wonderful Mac" make him seem destined for the rewards of Cupertino; yet, in a cruel twist, he instead descends into the dark domain of the IS department. The moral lesson here is that even the brightest star may fall from the Mac-loving firmament.

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Out of Time**

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Challenging puzzles

Non-stop action



CINEMATIC



IN-GAME



CINEMATIC



IN-GAME



An epic graphic adventure coming soon for PC/Mac hybrid

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reviews

Summer never ends with hardware, graphics, video, and games!

Premiere 5.0

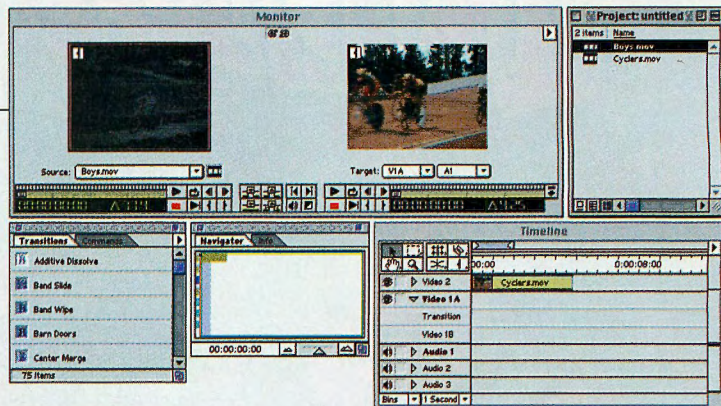
GRAPHICS & SOUND

COMPANY: Adobe Systems

CONTACT: 800-833-6687, <http://www.adobe.com>

PRICE: \$895 (SRP), \$199 upgrade

REQUIREMENTS: PowerPC, System 7.5.5 or later, 16MB of RAM, 30MB of free hard disk space, CD-ROM drive. **RECOMMENDED:** 48MB of RAM, QuickTime 3.0, large-capacity hard disk or disk array, QuickTime-compatible video capture/output card



Adobe Premiere, the first QuickTime video editing app for the Mac, has lately been showing its age. The most recent version, 4.2, sported an outdated interface and lacked many features demanded by professional video editors, who have been moving to the fast, powerful hardware-based editing solutions offered by Avid, Media 100, and Radius.

That's changed with version 5.0, Premiere's best upgrade in years. Adobe has fixed most of the problems that plagued earlier versions, brought the interface up to date, and added powerful tools modeled on those featured in high-end editing systems. The overhaul has added a couple of problems of its own, but they are few and not very serious.

The most obvious change in Premiere 5.0 is the new Adobe-standard interface. The program now looks and acts a lot like the latest versions of Photoshop and After Effects. Although you can customize Premiere to look like version 4.2, we can't imagine why you'd want to, because the new interface is cleaner and more intuitive.

Working with the old Premiere usually meant wading through a cluttered, sprawling mess of windows and floaters. In Premiere's new incarnation, Adobe has consolidated all important controls in two compact windows that fit nicely on a 17-inch monitor. Rearranging and sorting sound and video clips is now a breeze, and the new timeline's easily accessible tools and in-context menu are simple and direct. And Adobe has finally

eliminated most of the silly idiosyncrasies that have plagued Premiere users for years. For example, bottom layers in the Project window no longer cover the ones on the top.

But the changes in Premiere 5.0 run a lot deeper. At the top of the new feature list is three- and four-point editing, a professional feature found on Avid and Media 100 systems. Previously, the only way to edit was to place clips on the Timeline and manipulate them there, a clumsy process when you were trying to be frame-accurate. In three- and four-point editing, you specify accurate In and Out points for the clips in the new Monitor window. Premiere then fits them into the Timeline for you, and does a surprisingly good job of it too, pushing clips aside or accurately splitting them in two when necessary to keep the integrity of the edits.

It's now possible to edit an entire movie from the Monitor window without touching the Timeline at all. While this is not always the most efficient way to edit, it's great for doing small, frame-accurate tweaks. In fact, the Monitor window contains a special Trim mode for doing just these sorts of fine adjustments. In Trim mode, Premiere intelligently ripples or rolls the edits throughout the rest of the movie, keeping every clip in sync.

In line with its effort to attract professional editors, Adobe has made some changes to the way Premiere 5.0 processes video. Most important, it now supports an accurate NTSC video time base of 29.97 frames per second (fps)—thereby solving

THE NEW ADOBE-STANDARD Premiere interface is clean, simple, and direct.

Premiere's longstanding sound-sync problem—as well as film time base (24 fps) and PAL video time base (25 fps). In addition, Premiere 5.0 can handle projects up to three hours long, so editing a feature film or miniseries is now a viable option.

Premiere has never led the pack in com-

New Audio Controls

Video's not the only news in Premiere 5.0—it abounds with new audio features, too.

Pan Rubber Bands: You can now use Rubber Bands, previously used only to control the volume of an audio clip, to pan a one-track audio clip between the left and right audio channels.

New Audio Filters: Premiere 5.0 comes with an impressive set of audio filters including Chorus, Equalizer, Flanger, Multitap Delay, Parametric Equalization, the essential Notch/Hum filter, all of which are fully keyframable.

New Left/Right Controls: These control stereo-track sounds. You can swap tracks, suppress tracks, and make a stereo clip from a mono one.

Improved Audio Processing: The quality of audio downsampling (decreasing the sample rate) has been improved, meaning better audio for Web movies.



FREAKIN' AWESOME
The most valuable products, the coolest gizmos.



SPIFFY
A solid offering. Overall a good investment.



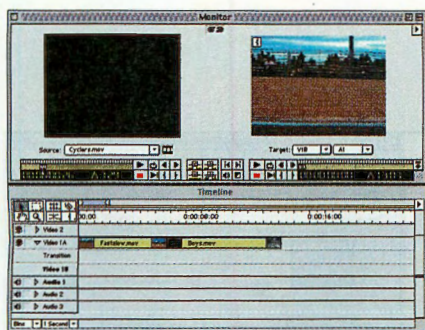
YEAH, WHATEVER
A few good features, but generally a waste of time and money.



BLECH!
We hate to even blotch our pages with the thing.

Pointy Editing

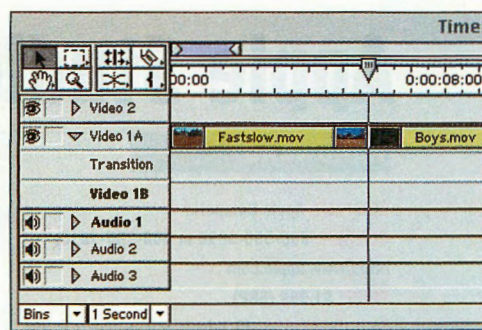
Premiere's toolkit now offers professional-style three- and four-point editing, accessible through the new Monitor window. Here's how to use these much-hyped features.



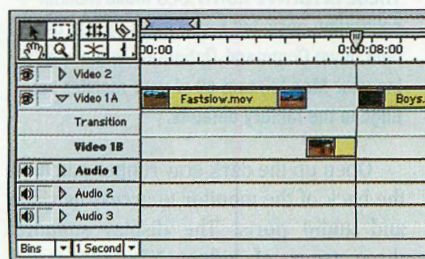
1 We've dragged two clips from the Project window into the Timeline. We'll add a third clip at the "edit" between them.



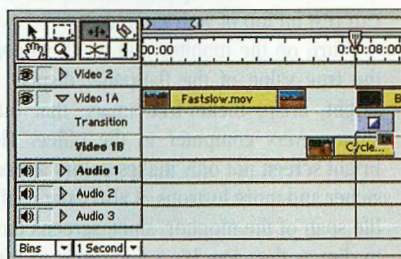
2 Drag the third clip into the Monitor window. Assign In and Out points to the part of the clip you'll use. These are the first two points of the three-point edit.



3 Using the Next Edit button, move the current time to the edit in between the first two clips, making an In point on the Timeline. This forms the last point of the three-point edit.



4 After specifying the Video 1B track as the current track, click Insert to do the three-point edit. This places the area of the clip between the In and Out points into the Timeline. The second clip moves aside to make room.



5 Extend the third clip and add a cross-dissolve transition. Premiere 5.0 has a handy button that drops your favorite transition into the current edit perfectly with one click.



6 Using the Trim mode, tweak the placement of edits precisely without zooming in or moving a lot of clips around. You can nudge each edit one frame or five frames in any direction; clips expand and contract automatically to keep up.

positing and special effects—Adobe would much prefer that you use After Effects for that kind of work. But Premiere 5.0 effects have been enhanced in two significant ways. First, all video filters are now keyframable. Adobe has created a nice little interface that directly relates your keyframes to the Timeline and makes planning complex effects much easier.

Second, the new scrolling text feature allows you to scroll text up or down or crawl it left or right. Premiere's new Text box is easier to use and more powerful than before—you no longer need to go to Photoshop or After Effects to make credits for your video. (A minor bug inserts too much space between letters at certain point sizes; choose a slightly different size to get around this.)

Another pleasant surprise is the included training video. Created by Brian Maffitt

of Total Training, it will get you up to speed on Premiere's new features far more quickly than the manual will. We hope Adobe starts including these tapes with other products.

While eliminating the design flaws of Premiere 4.2, Premiere 5.0 does introduce a few of its own. Instead of the appropriately prominent Make Movie command in Premiere 4.2, the Movie command in Premiere 5.0 lurks in the File menu under Export. Unfortunately, that Make Movie command has become a hard-wired reflex for most Premiere editors; moving it created no appreciable benefit.

Also, Premiere's on-the-fly playback needs further refinement. If your project contains just cuts, it will play back acceptably. However, effects and transitions won't show up until you render a preview, a

process that has not speeded up much since version 4. Annoyingly, if you just move the clips a frame or two and make a new preview, Premiere laboriously rerenders the effects again, even if there have been no changes to the effects themselves.

Premiere 5.0's new professional features and clean, unencumbered interface will rope in serious editors put off by the high price of hardware-based editing systems. There's no doubt about it—Premiere 5.0 is a winner.—Raf Anzovin

GOOD NEWS: Pro three- and four-point editing. Clean, Adobe-standard interface. Multiple undos. Standard video time base. Stereo pan controls. Keyframable filters. Scrolling text. Instructional video. **BAD NEWS:** Some commands rearranged unnecessarily. Playback controls still cumbersome.

in review

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reviews



Apple Studio Display

HARDWARE

COMPANY: Apple Computer

CONTACT: 800-538-9696 or 408-996-1010,

<http://www.apple.com>

PRICE: \$1,999 (SRP)

SPECIFICATIONS: 15.1-inch active-matrix liquid crystal display, 24-bit color, 1,024 by 768 maximum resolution, composite and S-video connectors

REQUIREMENTS: Mac OS 7.5 or later, or Windows 95 or NT

Buying a computer monitor used to be a lot like getting underwear for Christmas—necessary, but hardly a list-topper. All that's changed with Apple's new Studio Display flat-panel monitor, which is sure to be on every man's, woman's, and child's holiday wish list as the lust-inducing must-have hardware of the year, despite the designer price tag.

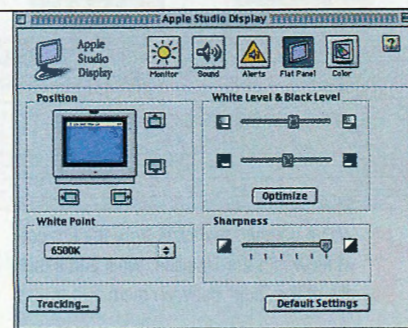
The only stand-alone active matrix flat-panel display to grace the Apple product line, the Studio Display's space-age industrial design and sleek, translucent-dark blue casing catch your eye before you even turn on the display. Weighing in at a slight 6

pounds, the monitor looks positively anorexic compared to the mammoth 40-pound desk hogs that qualify as the norm for most monitors. The Studio Display also ships with two convenient options for a base: a pressurized, spring-loaded desktop stand, which allows you to adjust the screen's viewing height by pulling the screen up and down; and a picture frame-type stand, which takes up even less space and can rest on top of your computer.

Turn on the monitor and you'll witness the true value of the flat-panel display: a bright, crisp, flicker-free image that outshines every computer in the office. The bright screen not only makes colors appear richer and more lustrous, it also extends the life span of the monitor, since screens tend to dim as they age. It's a good idea to turn down the brightness on the monitor to prevent screen burn-in as well as nasty migraine headaches, but eventually you'll be thankful for the extra wattage.

Although the 15.1-inch screen is technically smaller than most Cathode Ray Tube 17-inch displays, you can hardly tell the difference between the two. The LCD makes it possible for your desktop to reach right to the edges of the monitor's bezel, which is also smaller than the bezel on most monitors and lends to the illusion of increased screen size. The dark case increases the contrast between the screen and the case, making the screen appear even bigger and brighter.

Apple recommends that you jack up your resolution to the maximum 1,024 by 768 to make your screen look its best. The deluxe display, which Apple is pitching at graphics professionals and video enthusiasts, offers 24-bit color and new onscreen digital controls to aid calibration. Under the updated Monitors & Sound control panel you'll find additional controls for the Studio Display that allow you to tweak the screen position, white and black levels, white point, sharpness, and tracking. The display's DigitalColor Meter, a separate control panel found under the Apple menu, allows artists even more color control by supplying the exact RGB values of any color that appears on the screen.



THESE INTUITIVE CONTROLS make monitor calibration easy, but if you mess up you can hold down Command-Option-a-v while restarting your Mac to reset all of your monitor settings to the factory defaults.

Open up the dark gray rubber patch on the back of the monitor to access its video and audio ports. The display supports three types of video: NTSC (National Television System Committee), used in most North American and Asian countries, including Japan; PAL (Phase Alternating Line), used in Australia and most European countries (except France); and SECAM (Séquentielle Couleur Avec Mémoire), the French standard.

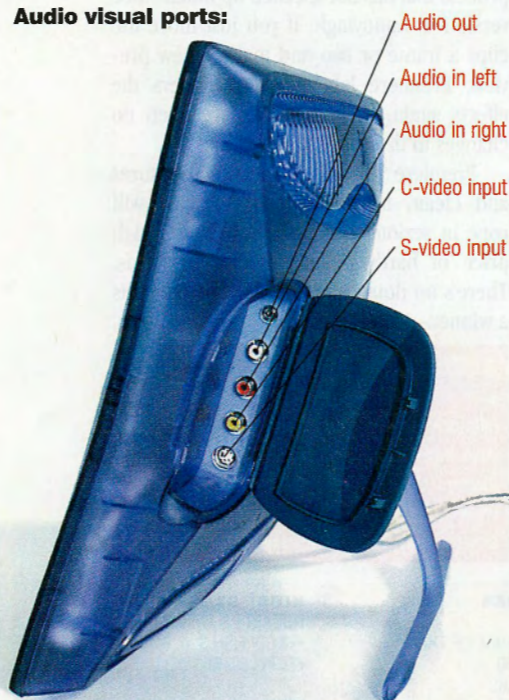
The easy-access ports enable you to hook up camcorders, digital cameras, and even VCRs so that you can view digital pic-

First Things First

Rip your display out of the box and do these five things first:

1. Plug the monitor's ADB connector into your Mac, or you won't be able to access the onscreen controls and multiple resolutions.
2. Use the power adapter that ships with the monitor or risk damage to the display.
3. Lower the brightness to avoid certain headaches and possible screen burn-ins.
4. Install your Apple Display software. Keep the disc handy, because if you ever have to reinstall your system software, you will have to reinstall your monitor software as well.
5. Remain calm if your screen turns a wavy gray or shows an odd pattern when you first start up your Mac. This is normal and only lasts a few seconds.

Audio visual ports:



HERE'S WHERE IT'S AT. Hook up all your vital digital peripherals.

MULTISTRIPED APPLE
LOGO lends air of nostalgia
to an otherwise modern
monitor.

15.1-INCH VIEWABLE SCREEN
with maximum resolution of
1,024 by 768.

OSD NAVIGATION opens up
the Monitors & Sound control
panel.

VIDEO SOURCE BUTTON
allows you to toggle between
computer and video controls.

ADB PORTS on the backside
of the base are for your key-
board and mouse.

POWER-INDICATOR light lets you
know when it's on.

BRIGHTNESS CONTROLS help
you lighten up.

RUBBER INDENTATIONS
on base of stand allow
you to slide your key-
board up and under the
monitor when not in use.

tures or full-screen video. If
you have your cable TV hooked
up directly to your VCR, it's even possi-
ble to hook your monitor up to that con-
figuration and use it as a TV screen. The
display lacks speakers, which means you'll
have to hook up external speakers with
internal amplifiers via the Audio In and

Out ports on the back of the
monitor to hear your favorite MTV video as
well as see it.

After using the Studio Display for only a
week, it's almost impossible to go back to the
hulking displays of yore without feeling as
though you're stepping back in time. The flat-
panel screen is brighter, more vivid, lighter
and lovelier than the old-fashioned CRTs.
Sure, it has a few drawbacks: It doesn't work
with some video cards and PowerBooks.
Plus, within a mere seven days of use the flat
panel we tested dropped a pixel, creating an
annoying red zit in the middle of the other-
wise unblemished screen whenever it faded
to black. Most of the time, however, the
flawed pixel isn't a problem.

The biggest drawback to the monitor
isn't a defective pixel or two, but a staggering
price tag that puts it out of reach for most
users. Flat-panel screens are notoriously dif-
ficult to make, which partly explains the dis-
play's steep \$1,999 price—but not a totally

outrageous figure com-
pared to similar mod-
els. However, as soon as
Apple released the Studio
Display, companies such as
ViewSonic and Compaq slashed
the prices on their flat screens.
Compaq's TFT500 15-inch flat screen,
which sold for \$3,799 in June 1997,
dropped in price by 58 percent to a current
low of \$1,599.

One look at the Studio Display and
you'll definitely want it. And if you can save
up enough cash to actually buy the high-
priced beauty, you won't be sorry that you
did.—*Nikki Echler*

GOOD NEWS: It works wonderfully
and is superattractive, with a
painfully sharp display and a screen
so bright you'll have to wear shades.
BAD NEWS: It'll cost you a bundle. And then some.



Photos by Aaron Lauer

Lookin' Good, Lookin' Good

Keep your monitor working well and looking
good with a few handy maintenance tips:

Keep it dry. Avoid moisture of all kinds. If
your screen gets wet, leave it in a warm area
until the moisture evaporates on its own.

Don't use a screensaver to prevent
screen burn-in. It's better to use the Energy
Saver function to darken your screen when
it's not in use.

Before you clean your screen,
make sure it is turned off and that the ADB
connector is disconnected. Clean it with a
soft cloth and mild soap and water. Do *not*
spray any liquid directly onto the screen or
it could drip into the display and cause
electrical shock.



PowerBook G3 Series 233

HARDWARE

COMPANY: Apple Computer

CONTACT: 800-795-1000 or 408-966-1010, <http://www.apple.com>

PRICE: \$2,299 (SRP)

SPECIFICATIONS: 233MHz G3, 32MB of RAM, 2GB IDE hard drive, 24X CD-ROM drive, built-in 10baseT Ethernet, monitor out ports, 12.1-inch passive-matrix display



Photo by KB

LOOK—IT'S AUNTIE
EM, AND... OH, WAIT.
IT'S JUST MY DESKTOP.

We wanted to like it. We really did. When the 233MHz PowerBook G3 Series arrived in our offices, folks gathered around to see it when it came out of its box, all black and curvy. We opened it up, and the interior of the 'Book continued to attract. That is, until we fired it up and got a good look at its display.

Unless viewed spot-on, the 12.1-inch passive-matrix PowerBook G3 Series screen has horrible gradient problems, and even after tweaking the contrast and brightness just so—too much and horizontal and vertical lines mar the desktop; too little and everything looks washed out—the cursor still submarines as if on NATO maneuvers. A blue-gray haze surrounds the edges of the screen, and the Apple on the Apple Menu looks awful.

It's difficult to get past the poor display quality, since the display is the primary way by which the 'Book is used. One way to escape the display is to use the PowerBook's built-in video out port to send the signal to an external monitor. Here, the PowerBook does a good job of driving an AppleVision 1710 display, and provides a crisp image at multiple resolutions, although its display is fixed at 800 by 600. As with previous PowerBooks, this display is a mirror-only deal; you can't use the external display to show additional real estate.

Certain parts of the 'Book are great. The form factor is like nothing that's out there, its black, curvy lines just begging to be touched. And that white crystal apple in the center, well, it's just plain elegant. The new expansion bays are very cool as well. Each can accept a floppy drive (not included), a CD-ROM drive, a battery (two can be used at once), or a third-party device such as the excellent VST Technologies Zip drive. A Control Strip module indicates which peripheral is installed in which bay.

The PowerBook's keyboard is fantastic as well, once you get used to the misplaced nubbins. On older Mac keyboards, the nubbins are located on the D and K keys, and after years of touch-typing on keyboards with this arrangement, it's tough to get used to the new placement. However, besides that unwelcome change (and the slightly shifted Option key placement), this keyboard kicks some serious butt. It's smooth, quiet, and responsive.

Too bad the same can't be said for the CD-ROM drive. Whenever a CD is in the drive, it vibrates and hums like the magic fingers bed in a Motel 6. If you're working in a quiet room somewhere, this may drive you nuts (and we

won't even get started with the whole lap-massage aspect of the drive). One other thing that bugs us—and this is a tiny thing—is that the label that covers the battery and battery port during shipping leaves a goopy residue all over the handrests and the battery casing. Other than hand cleaning over time, there doesn't seem to be a graceful way to remove this putty—rubbing alcohol certainly doesn't work.

Performance for this sub-\$2,300 Mac is strong. According to the Norton Utilities System Rating, the 233MHz PowerBook G3 Series holds its own with the previous versions of the G3 PowerBook, and it even beats a Power Macintosh 9600/200.

It's tough to recommend the 233MHz PowerBook G3 Series, primarily because of its passive-matrix display. The things that make the PowerBook cool can also be found in any of the other new PowerBook series computers; the things that drive you nuts (namely, the display) are only to be found here. If you can't afford to upgrade to a PowerBook with a better monitor, or if the display quality doesn't matter to you, then this PowerBook is a great deal. If you purchase a PowerBook with the display quality in mind, then either spend more for a better display, or take a pass this time around.—David Reynolds

NORTON UTILITIES SYSTEM INFO OVERALL SYSTEM RATING

The higher the number, the better the performance.

266MHz G3 Minitower	591
Power Macintosh 8600/300	457
233MHz G3 PowerBook*	440
PowerBook G3 Series 233MHz	424
Power Macintosh 9600/200	408

* old version

GOOD NEWS: Good power for the price. Nifty form factor.

BAD NEWS: Lousy display. Misplaced home-row nubbins. Wider-than-normal case doesn't fit properly in some satchels. Loud CD-ROM drive. Battery label leaves thin veneer of snot on case and battery.



reviews

Mailsmith 1.0.1

COMMUNICATION

COMPANY: Bare Bones Software

CONTACT: 781-687-0700, <http://www.barebones.com>

PRICE: \$79, \$59 to BBEdit owners

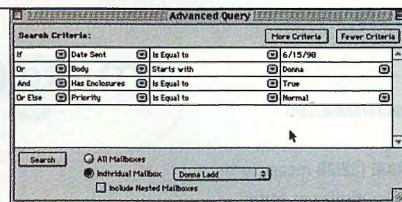
REQUIREMENTS: 68020 or faster with 8MB of RAM, PowerPC with 16MB of RAM, System 7.5 or later, 8MB of free hard disk space, CD-ROM drive, MacTCP 2.0.6 or Open Transport 1.1.2 or later

Ever met an email client you liked? Most of us have tried several, longing for a detail-oriented client that didn't seem to exist. Luckily, with the release of Bare Bones Software's Mailsmith 1.0 and the 1.0.1 update, discriminating Mac users may have met their perfect match.

Mailsmith incorporates the essential capabilities of Bare Bones' industry-standard text-cruncher BBEdit, which fixes problems with text quickly and efficiently. If you regularly deal with folks who have all sorts of email configurations, you'll love Bare Bones' BBEdit capabilities. Your days of cleaning up hard returns in your email are over. It even supports BBEdit plug-ins.

Mailsmith's search capabilities are great. Its "fuzzy" and grep searches allow you to search for a match with as little as 20 percent accuracy. Even those of us with bad memories can look for an approximate match and still often hit pay dirt. Even better, Mailsmith stores email in an object-oriented database. Consequently, you can perform detailed searches through Boolean criteria AND, OR, and XOR (exclusive OR).

Mailsmith even integrates scripting technologies through Open Scripting Architecture,



NOW THOSE ARE OPTIONS! In Mailsmith, you can do an advanced query with many different levels.

which means that it is compatible with AppleScript and UserLand Software's Frontier. Scripting fanatics, you know what to do. Moreover, Mailsmith is a problem solver. It takes multithreading—"cooperative tasking" in Bare Bones speak—to a new level with features specific to an email client. You can send, sort, and filter email while you compose or edit another message. Two email accounts can be active at the same time; the mail connection window shows the status of both accounts simultaneously.

Mailsmith also features filtering capabilities, which file your messages where you want based on multiple criteria. You can autoupload all the get-rich-quick spam that clogs your mailbox, kill time assigning various sounds to your regular email buddies, or design filters to automatically unsubscribe you from mailing lists, forward email to another recipient, and print hard copies.

And that's not all: Mailsmith possesses additional minutiae you'll appreciate. In its three-paneled window (similar to Microsoft's Outlook Express), you can scroll through your inbox and read email text without opening each item. It's also easier to handle multiple attachments, whereas in clients such as EMailer you have to start over with each attachment.

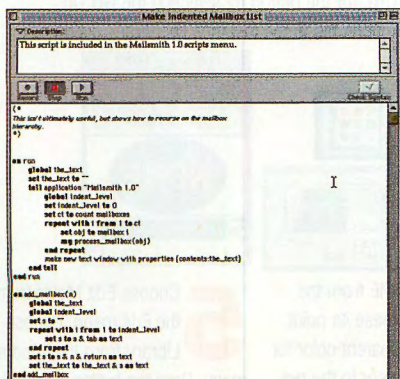
We have one gripe: Mailsmith is interface challenged. However, it wouldn't be Bare Bones if it were pretty. Attractive or not, it's a keeper.—Donna Ladd

GOOD NEWS: Awesome filters. Meticulous filing system. A search function that actually finds things. Good scripting tools.

BAD NEWS: Interface-challenged program.

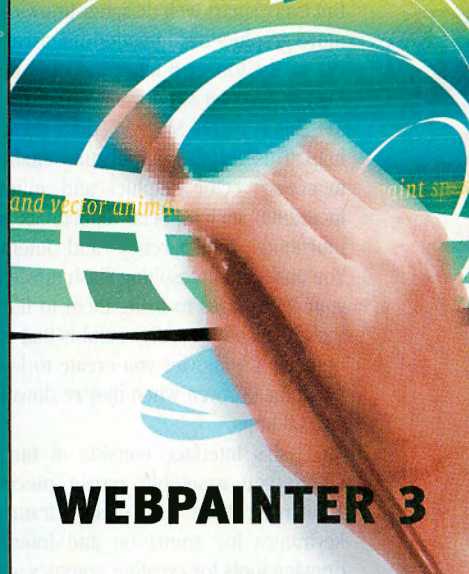


FIND A DEMO of Mailsmith 1.0.1 on The Disc.



THIS IS ONE OF SEVERAL SCRIPTS included in Mailsmith 1.0.1. Just run it or create your own.

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Flash 3

GRAPHICS & SOUND

COMPANY: Macromedia

CONTACT: 800-457-1774 or 415-252-2000, <http://www.macromedia.com>

PRICE: \$299 (SRP), \$99 upgrade

REQUIREMENTS: PowerPC, System 7.5 or later, 16MB of RAM (32MB recommended), 35MB of free hard disk space, CD-ROM drive, 8-bit color display or better



FIND A
DEMO of
Flash 3 on
The Disc.

In Web publishing, designers feel constant pressure to produce more-interesting graphics, special effects, and animations. But every smart Web designer knows that the more graphic- or animation-intensive a Web site is, the longer it takes the site's pages to load in browser windows.

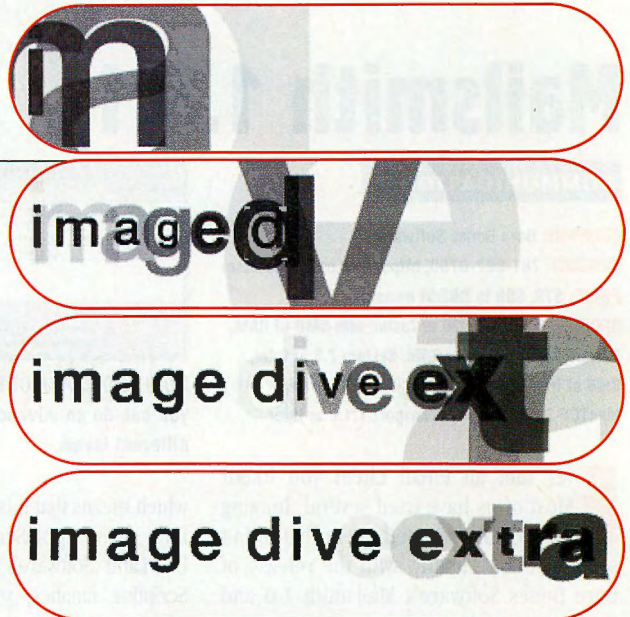
This is where Macromedia's Flash 3 can help. This graphics application enables you to create vector graphics and animations, including such special effects as sound, morphing, transparency, and interactivity. You can add the resulting Flash movie files to your Web pages to bring them to life. What makes Flash especially useful is that you can optimize the movies you create to load and play quickly, even when they're downloaded at 28.8 kbps.

Flash's interface consists of the Stage, where you assemble movie pieces; the Timeline, where you specify frames and keyframes for animation and interactivity; drawing tools for creating graphics and text; and a variety of commands and other controls for working with movie components. You can add each graphic in a movie to a different layer, each of which can have its own frames and keyframes for motion. This offers a tremendous amount of flexibility for setting

up complex animations.

When you finish creating a movie with Flash, you can export it in various formats, including Shockwave Flash, FutureSplash Player, QuickTime, and animated GIF, as well as PICT, JPEG, and GIF sequence files. (You can also export individual frames in a variety of formats for use in other applications.) If your movie includes interactivity, it's best to export it as a Shockwave Flash file. Flash comes with AfterShock 2.0, a Macromedia utility that composes HTML code for embedding Shockwave Flash files into HTML documents. Using this utility, you can set options that control the way the movie plays back to visitors to your Web pages.

One drawback to using Flash is that the freely distributed Shockwave Flash plug-in or ActiveX control is required to view Shockwave Flash movies embedded in Web pages. Luckily, Netscape will include the plug-in with future versions of Navigator. One alternative is to use AfterShock to set up



USE THE NEW TRANSPARENCY FEATURE to jazz up your pages. To see a Web site made entirely in Flash 3, go to <http://www.nagafuji.com>.

the movie for playing with Java. Include the necessary Java classes on your site, and the movie can play with any browser that's Java-enabled—even without the Shockwave Flash plug-in. Performance, however, is not nearly as good as it is with the plug-in installed.

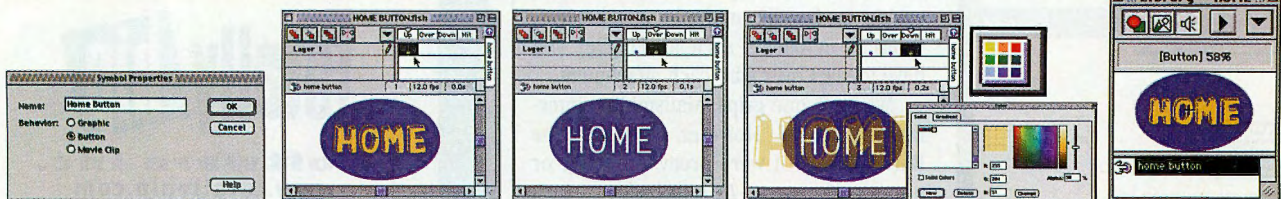
Flash comes with a good manual and extensive online help. The online tutorial walks you through the creation of several Flash examples, but doesn't exactly explain what each step does. At the completion of a tutorial lesson, you will have a good idea of what Flash can do, but you're not likely to be able to perform the same steps for your own designs.—*Maria Langer*

GOOD NEWS: Powerful. Flexible.
BAD NEWS: Requires Flash plug-in
or Java-enabled browser.



Creating an Interactive Button

TIP: Specify an URL for the button by selecting the Get Url command in the Actions tab in the Instance Properties dialog box.



1 In a new Flash document, choose Create Symbol from the Insert menu. Name the button in the Symbol Properties dialog box, and select Button as the behavior.

2 Select the Up frame in the Timeline, then use the Type, Pencil, and Fill Bucket tools to create a button.

3 Select the Over frame in the Timeline and choose Keyframe from the Insert menu. Change the font and color of the word HOME.

4 Copy the word HOME from the first frame and increase its point size. Create a transparent color for the word by dragging the cursor to the bottom of the Color menu in the toolbox and selecting the button. Decrease the Alpha percentage by 50, and click New.

5 Choose Edit Movie from the Edit menu. Choose Library from the Window menu. Drag the button from the Library window to the Stage. Finally, choose Enable Buttons from the Control menu to turn on the buttons.

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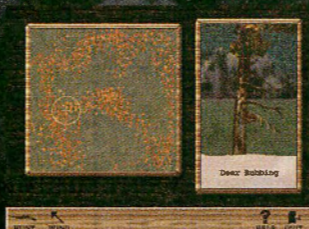


The Thrill of the Hunt

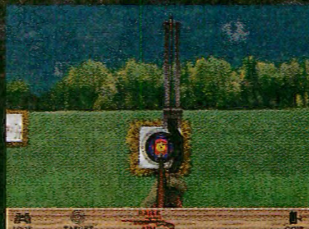
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ix3D Ultimate Rez

HARDWARE

COMPANY: IXMicro

CONTACT: 888-467-8282, <http://www.ixmicro.com>

PRICE: \$699 (SRP)

REQUIREMENTS: PCI-based Power Mac, System

7.5.2 or later, 16MB of RAM

RECOMMENDED: Large-screen, high-resolution color monitor



Photo by KB

THIS POWER PLANT pushes pixels to the pinnacle of performance.

Do you crave pure pixel-pushing and polygon-pumping accelerated graphics power for Photoshop, QuarkXPress, Lightwave, Electric Image, MiniCAD, and other high-end applications? Do you need fast refresh rates at such absurdly high resolutions as 1900 by 1200 to drive your pricey 21-inch display? That's just what the top-of-the-line ix3D Ultimate Rez from IXMicro aims to deliver—and does.

The ix3D Ultimate Rez is a long-form PCI card with 8MB of video RAM, delivering 128-bit 2D and 3D acceleration at 32 bits per pixel (millions of colors). The power plant is IXMicro's TwinTurbo 128-3D, the company's new 128-bit graphics controller. The card has one standard Apple DB-15 and one standard VGA connector and supports VESA's DBMS desktop power management.

Stated performance specs for 2D graphics are impressive. The ix3D's maximum 2D display resolution at 32 bits per pixel is 1920 by 1080 pixels at 60 to 72 Hertz. If you can settle for a mere 16 bits per pixel, the Ultimate Rez delivers 1920 by 1200 pixels at 76Hz—the highest screen resolution you can buy for your Mac. As for QuickTime

acceleration, the ix3D will speed QuickTime MPEG playback at 30 frames per second (fps) in large window sizes (640 by 480 or bigger).

Benchmarking the ix3D on our 266MHz G3 was like road-testing a mid-'80s Jaguar XK—silky smooth. We pitted the hardware pan and zoom against a 95MB, tabloid-sized, 300 dpi Photoshop image and found that scrolling purred along. But like the Jag, the board has its quirks. When hardware zoom was invoked, we zoomed in all right, but we were also bumped to a different layer of the Photoshop image. Zooming back out took us to yet another layer. (The solution to this problem is simple: Just reselect the desired layer in Photoshop.) However, we had no quibble with the board's screaming QuickTime acceleration. In Puffin Design's Commotion 1.5, the ix3D played a D1 movie window at a blistering 54 fps.

What about the 3D numbers? The ix3D accelerates QuickDraw 3D RAVE, but not the emerging OpenGL standard. IXMicro claims a rate of 1.2 million triangles per second, which is serious polygon performance, and boasts

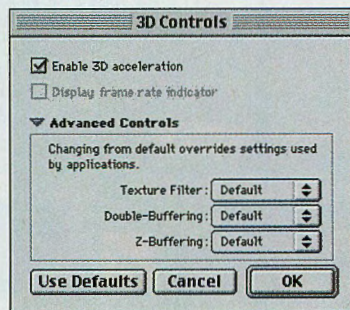
speedy filtered bilinear rendering (a technique for making smoother-looking texture maps) that can generate a maximum of 65 million texture pixels per second. The card supports hardware Z-buffering (where depth information about 3D scenes is kept); sports perspective-correction features (to make sure textures actually look as though they exist in 3D space); and accelerates alpha-blending (transparency) and fog effects. (Note that your 3D program can't necessarily deal with these rendering improvements in hardware. Only a 3D application entirely based on QuickDraw 3D, such as Microspot's 3D World, is likely to show complete compatibility with any QuickDraw 3D accelerator.)

Real-world 3D applications show that the ix3D is very fast, but not quite as fast as the numbers suggest. We tested the 3D screen redraw using a large Inspire 3D scene with more than 100,000 polygons and 38MB of texture maps. With 3D acceleration turned off, the unaided G3 took 7 seconds to display the scene without any textures. With ix3D acceleration, the screen redraw took merely 3 seconds—a healthy 57 percent improvement—and showed most textures accurately. In some cases, textures were partially broken up, which is perhaps a problem with the ix3D's perspective correction hardware. More onboard texture RAM might help, but there's no option to upgrade the RAM for caching more textures.

Little problems aside, the ix3D Ultimate Rez delivers the tweakiest 2D/3D performance you can buy for under \$2,000. If squeezing the last squirt of speed from your graphics hardware is your top priority, then look no further.—Steven Anzovin and Raf Anzovin



THE IX3D CONTROL PANEL accommodates sync-on-green monitors, which many other cards can't handle, and allows you to customize 3D settings depending on what hardware 3D acceleration features your 3D application can handle.



Good News: Top-of-the-line 2D/3D performance. **Bad News:** Hardware zoom needs work.



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Crushed the Celts.
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MetaSynth 2.0

GRAPHICS & SOUND

COMPANY: U&I Software, distributed by Arboretum Systems

CONTACT: 800-700-7390 or 650-738-4750, <http://www.uisoftware.com> or

<http://www.arboretum.com>

PRICE: \$249 (SRP)

REQUIREMENTS: PowerPC 80MHz or faster, System 7.3 or later, 16MB of RAM, Sound Manager 3.1 or later

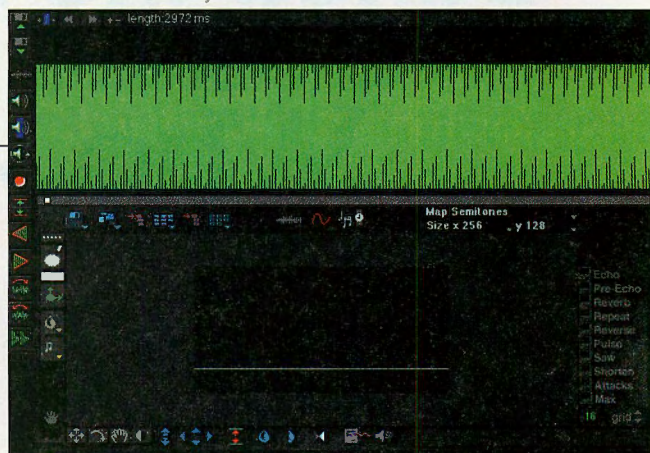
Worlds collide, familiar systems explode, and new paradigms are born. MetaSynth 2.0 smashes the world of graphics and the realm of sound together to create an amazing new dimension of audiovisual manipulation. Imagine being able to *hear* any graphic image—and to shape and transform it easily. Choose a brush and paint color on your screen, then blur it a little and emboss the edges. Step back and play it. You're painting with sound!

If you know nothing about music or sound design, MetaSynth 2.0 helps you discover the addicting universe of audio with the soothing familiarity of graphics tools. And if you are an audio aficionado, you can generate and manipulate sounds unavailable to you before, and make use of cunningly designed sample editors, effects, synth modules, and mind-blowing combinations of sonic tools, which use the awesome processing power of a Power Mac. It's important to note that this is a RAM-based program, not a hard disk-based audio editor, so the more

RAM you have, the more you can do. Also, the 80MHz clock speed is a minimum requirement. The faster your Mac, the quicker the rendering process, and the more likely you can preview work smoothly.

When you first launch MetaSynth 2.0, the space-age black screen and bright futuristic icons let you know right away you're not in Kansas anymore. If you don't feel confident about just jumping in and playing around, MetaSynth 2.0 ships with a helpful manual as well as several tutorials in KPT QuickShow format. These amazingly useful tutorials walk you through MetaSynth 2.0's features and give you examples of exactly how it is supposed to sound. It's fun and simple, and when you're done you know a lot about the program and how to use it. We wish all tutorials were so elegant.

Most of the sound and image manipulation is done through the Image Synth palette, which is like a small but limited painting and editing program in which each pixel



METASYNTH OPENS with a sine wave in both the Sample Edit and Image Synth windows.

becomes a sound source. The higher a pixel appears on the page, the higher its pitch. The longer the vertical line or stroke, the longer the sound lasts. A color's intensity determines how loudly it plays. And stereo placement is determined by color: Red pans to the left, green to the right, and yellow shows up in the center.

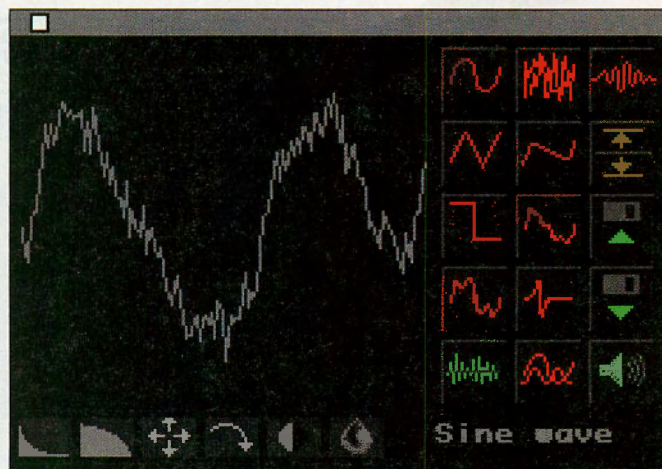
Once you've opened a picture, you can choose which sound source will play it back. Choosing Sample allows you to drive the picture with any recorded audio file open in the Sample Display Area. Think of it as hundreds of tape recorders all playing the same sound, but at slightly different speeds and times. If you choose the Crossfade Sample selection, the sample loops indefinitely with a smooth crossfade so you can hear long sustained sounds. Other sound sources include Instrument,



FIND A
DEMO of
MetaSynth
2.0 on The
Disc.



IN THE LOWER WINDOW is a picture from The Disc (Feb/98), and above it, in the Sample Edit Display, is a representation of the picture's waveform. Notice the Hot Filter Buttons (Echo, Pre-Echo, and so forth) in the lower right quietly waiting to spring into action.



THE WAVE TABLE PALETTE is where you create a sound for your picture to use as its playback source. As you drag the cursor after clicking on an icon, you can see and hear the relationship between your wave shape and timbre.

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multiplayer universe of user-created, hot-linked levels...welcome to the Bermuda Triangle of the Galaxy

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**"Unreal for Mac sizzles!
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"Unreal is all too real!"

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Actual Gameplay Screen



MDK

FUN & GAMES

COMPANY: Playmates Interactive Entertainment

CONTACT: 714-428-2100,

<http://www.plamatestoy.com/pie>

PRICE: \$49.95 (SRP)

REQUIREMENTS: PowerPC 100MHz or faster, System 7.5 or later, 16MB of RAM, 3MB of free hard disk space, CD-ROM drive, 256K of Level 2 cache recommended

MDK, first released for the PC in 1997, has found a new audience in Mac gamers. Not since the Marathon series have we had so much fun in 3D arenas, strafing and sidestepping to James Bond-style tunes. Many think the phrase "murder, death, kill" inspired the mysterious moniker on the black box, but the acronym probably stands for "Max, Doctor (Fluke), Kurt," the three protagonists of this third-person shooter. No definitive explanation of the title exists.

Your mission, however, is precisely defined. Uncouth extraterrestrials have descended from a rogue planet now orbiting Earth, and they will use their gargantuan Minecrawler to crush our planet. As Kurt Hectic, you must save six cities essential to human civilization. While the story is simple, MDK's innovative game concept compensates for the lack of narrative complexity. Throughout most of the game you run with guns blazing, but getting into and around sprawling cities requires you to parachute, snowboard, and fly a bomber, among other actions. In addition to dexterity, you need guile and stealth to defeat enemies on each level. Moreover, you have but one life, so tread carefully.

Visually, MDK is *bellissimo*. Our screenshots do little justice to the graphics that animate this game. The beautiful levels feature different themes, including a particularly



BEHOLD THE SUBLIME 3D ARENA, where reflections of a cityscape and an enemy boss follow your every step.

impressive dreamy, futuristic cityscape, which the mirrored floors and walls reflect with dazzling clarity. Seamless movement and well-drawn enemies—even in Sniper Mode—add to the visual wonderland.

MDK features 60 arenas. They play out rather linearly, so don't expect a high degree of replayability. In fact, hard-core action game veterans will probably zip through the levels. The game offers humorous moments and surprise-filled props to keep you smiling, including the World's Smallest Nuclear Explosion, World's Most Interesting Bomb, Dummy Decoy, Bones Airstrike, and—particularly endearing to Mac gamers—Health in the shape of colored apples. Because you have only one life, you have to pause the game and save it often, which interrupts gameplay. However, you should take the time to do this, because if you don't you'll be dead and have to start over at the beginning of the level.

MDK's most distinctive feature is its Sniper Mode. According to the default settings, you invoke Sniper Mode by pressing the space bar. Sniper Mode's excellence lies in its zoom, which allows you to knock off enemy units and their bosses from over a mile away. Through Sniper Mode's bullet cam, you get the satisfaction of witnessing flying bullets, mortar shells, and other deadly objects as they strike down targets. Sniper Mode appeals to your voyeuristic side, because it allows you to watch an unsuspecting target in a private moment without being seen yourself. If an enemy detects your presence, you still experience the thrill of being discovered and the ensu-



SNIPER MODE is your view to a kill. Zoom in on your target.

ing danger of getting shot. It's gameplay on the edge.

MDK is a title worthy of action gamers. We tested game performance on both a 225MHz 603e and a 233MHz G3: Frame rates averaged 13 to 16 per second and 22 to 26 per second, respectively. Both machines ran MDK smoothly. Of course, the G3 had the instructions-per-cycle advantage. We found two things about MDK disappointing: It doesn't support hardware 3D acceleration—no 3Dfx for you!—and it doesn't feature a multiplayer option. In today's cutthroat market, a 3D game almost has to include those things to be competitive. Hopefully, we'll get a 3Dfx patch and an expansion for multiplayer games soon.—Jennifer Ho and Samuel Parker

TRY FIRST, CHEAT LATER

Use Turbo to outrun bullets and belligerent units.

Tape Down The Fire Button in arenas.

Learn To Sidestep if you want to live.

(You'll find cheats for MDK all over the Web, but only a few work in the Mac version.)

"makemefull" Health once per level

"biggrenade" Homing sniper grenade once per level

"kill" Makes Kurt commit suicide

GOOD NEWS: Seamless action with moments of great humor. Fast, fun gameplay. Straightforward, unobtrusive in-game hints. A unique and hilarious manual. **BAD NEWS:** No multiplayer network death matches. No 3D-accelerated version available for the Mac.



QuickStitch

GRAPHICS & SOUND

COMPANY: Enroute Imaging

CONTACT: 650-843-1122, <http://www.enroute.com>

PRICE: \$39.95

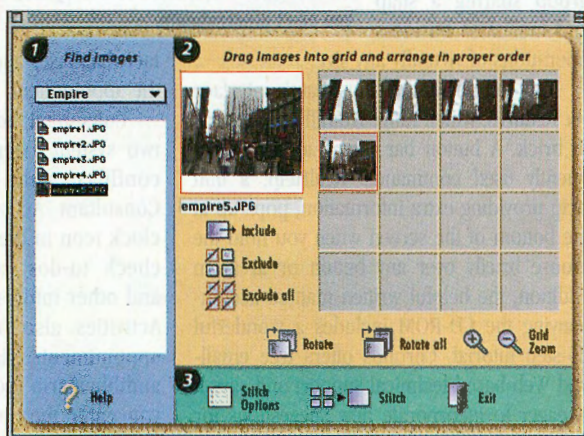
REQUIREMENTS: PowerPC, 20MB of RAM, 40MB of hard disk space, color monitor

One of the great things to do with a digital camera is to shoot a series of shots and stitch them together into a panorama. Hoping to do just that, we tried out QuickStitch from Enroute, which promises to do VR-style panoramas that wrap around, as well as perspective panoramas, which allow you to stitch together a few shots to produce a longer-than-normal image. And if you believe the promo literature, QuickStitch can also stitch together a two-dimensional set of images to create one monster image, and it features a great cropping function.

The program doesn't live up to its billing. After installation, we were presented with a Windows-like interface, which is slow and nonintuitive. However, it does have one neat feature—the ability to reorder the photos to be stitched. Although the program can read some included JPEG files, it wouldn't recognize JPEG files downloaded directly from our camera, not even after we processed them in Photoshop. The mystery finally revealed itself when we found that we had to add a .jpg or .jpeg extension to the file name



THIS IS ONE OF THE SAMPLE IMAGES you can stitch to other images to create a panorama.

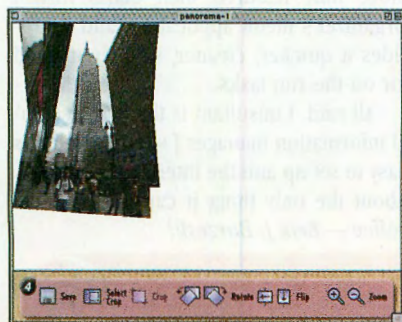


ALTHOUGH IT NEEDS SOME WORK, the QuickStitch interface does allow you to do some cool things, such as manually reorder images.

to get the program to recognize it. Ever hear of type and creator codes?

We did manage to stitch together a couple of images (after converting them to Windows BMP format) using QuickStitch, and we saved the resulting panorama as a JPEG. Unfortunately, Photoshop didn't know what to do with that JPEG. Also, later stitchings were unsuccessful for indeterminable reasons; that is, we pushed the Stitch button and nothing happened. If the software had worked as advertised, it would be worth the money. Perhaps in a later version it will work more smoothly. We hope so—it holds a lot of promise, especially at such an affordable price. —David Reynolds

GOOD NEWS: Can do panoramic images without having to "close the loop." **BAD NEWS:** Clunky, slow interface. Nonstandard way of reading files causes some confusion.



HERE IS THE FRANKENSTEIN panorama we made. It is now ready to be cropped.

This EPS image was printed on a color inkjet printer **without** StyleScript



Problem Solved



The same EPS image printed on a color inkjet printer **with** StyleScript

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Consultant 2.21

PERSONAL PRODUCTIVITY

COMPANY: Chronos

CONTACT: 801-957-1774, <http://www.chronosnet.com>

PRICE: \$39.95 Internet download; \$49.95 on CD-ROM with manual

REQUIREMENTS: System 7.0 or later, 2.5MB of RAM, 5MB of free hard disk space, 640 by 480 or better monitor

It slices. It dices. It makes sure you don't miss your 2 p.m. with Mr. Ellsworth. It's Consultant 2.21, the do-all, be-all, and end-all utility for time and task management. A longtime user of Claris Organizer, I began searching for a new personal information manager when Claris became FileMaker. My search is over. Consultant offers more power than Claris Organizer in a package that's as easy to use as—well, a Mac.

On the simplest level, Consultant is a wonderful day planner. As the user becomes familiar with the application, Consultant's power becomes evident. Utilizing a database capable of storing 2 billion entries, Consultant automatically links appointments to contacts, dials your phone, prints your schedule in popular appointment book and desktop formats and sizes, and allows you to open multiple schedule views simultaneously, among other great things.

Consultant offers multiuser support as well. Better yet, all users can share the same file. The primary user specifies what other users can see and modify, and each user has

his or her own access password. You can even use Consultant across a network, which makes group sharing a snap and facilitates business operations of virtually any size.

You can customize Consultant's interface via Textures, which range from floral patterns to brick. A button bar offers access to frequently used commands. RealHelp, a thin strip providing extra information, pops up at the bottom of the screen when you hold the mouse briefly over any button or area. In addition, the helpful written manual accompanying the CD-ROM includes a wonderful 25-step tutorial. Chronos offers free email- and Web-based technical support and says it is eager to incorporate new suggestions for features into its product.

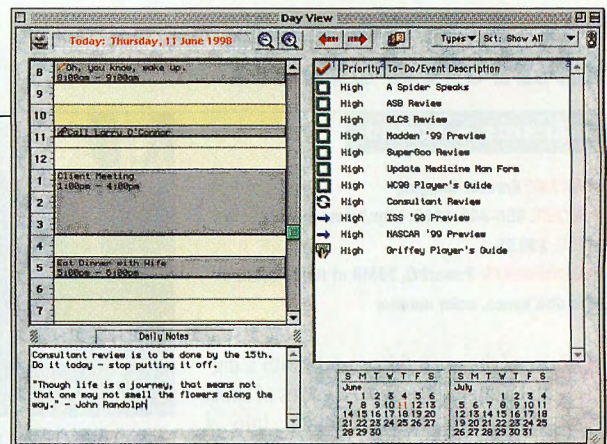
The Translate feature is nifty indeed: When you type *Meet Seth for lunch at noon next Wed*, Consultant schedules an appointment on the following Wednesday from noon to 1 p.m. with directions to *Meet Seth for lunch*. It also looks for Seth in the con-

tact database, and links his information to the appointment.

Consultant adds functionality through two system extensions, neither of which conflicts with my installed software. Consultant Activities, represented by a clock icon in the menu bar, allows you to check to-dos, appointments, birthdays, and other information quickly. Consultant Activities also alerts you to upcoming appointments via a dialog box and/or audible alarm (you select this option when you enter the appointment). If 2 p.m. is approaching and you're absorbed in your latest issue of *MacAddict*, the alarm or message warns you about your approaching meeting.

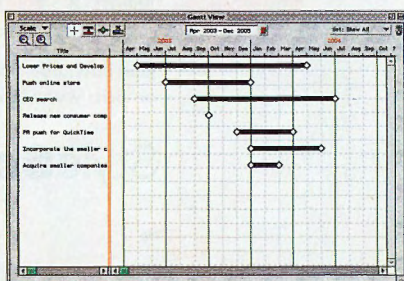
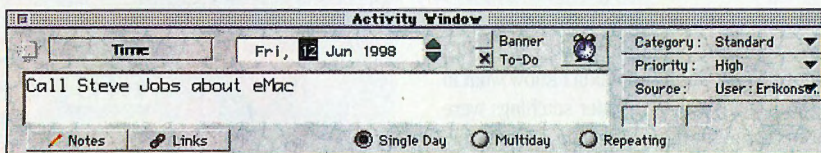
The other menu bar item, Consultant Contacts, provides one-click access to your favorite contacts. Lastly, both extensions allow direct access to Consultant and Mini-Consultant, freeing up room in your Apple Menu Items folder. Mini-Consultant, a slimmed-down version of Consultant, can check on appointments, create contacts and to-dos, and much more. It is more fully featured than Claris Instant Organizer's menu application, and it provides a quicker, cleaner, simpler method for on-the-run tasks.

All said, Consultant is the best personal information manager I've ever used. It's easy to set up and the interface is intuitive. About the only thing it can't do is make coffee. —Erik J. Barzeski

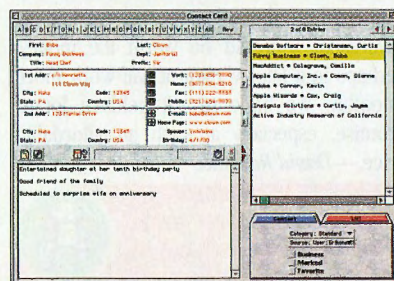


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ADDING OR MODIFYING activities is easy with Consultant.



PLAN EXTENDED tasks easily in the popular Gantt chart view.



CONTACT CARDS HOLD all of the information about a person you could ever need.

GOOD NEWS: Does almost everything. Customizable and intuitive. Small and efficient. **BAD NEWS:** Doesn't make coffee.





PhotoPC 700

HARDWARE

COMPANY: Epson America

CONTACT: 800-463-7766, <http://www.epson.com>

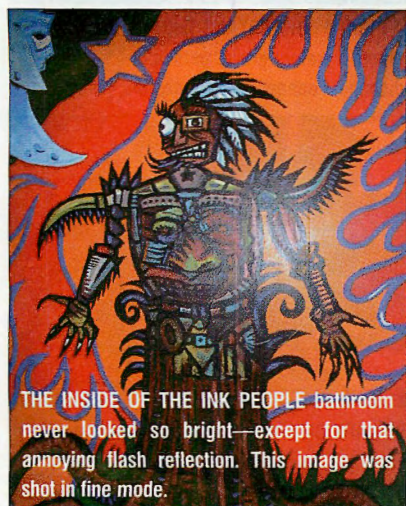
PRICE: \$699 (SRP)

SPECIFICATIONS: Up to 4MB of internal memory, enough for 50 standard, 15 fine, or 7 superfine images; 1,280-by-960-pixel maximum resolution; 24-bit color; 2-inch LCD display; video out; direct print option

REQUIREMENTS: PowerPC, System 7.1 or later, 16MB of RAM, 30MB of hard disk space, CD-ROM drive, color display

THE PHOTOPC 700 is definitely PC—photographically correct, that is.

For a mere \$699, the Epson PhotoPC 700 is a darn nice camera. With its high-resolution capabilities, good color handling, and host of funky options, it does a lot for the money—an all-in-one camera, presentation tool, and printer driver.



THE INSIDE OF THE INK PEOPLE bathroom never looked so bright—except for that annoying flash reflection. This image was shot in fine mode.

The heart of the PhotoPC 700 is a digital camera. It's a strong heart. With 4MB of memory (enough for up to 50 standard images or 7 superfine images), the PhotoPC 700 takes quality pictures with strong color. It handles low-light conditions, and the optional flash works as well as a flash should (although the autofocus goes off unnecessarily).

Although the PhotoPC 700's control buttons aren't terribly intuitive (the resolution button is inexplicably labeled with a five-pointed star), they are easy to use once you learn them, and they reveal the camera's depth of function. The PhotoPC 700 features a built-in digital zoom, as well as a motor-drive mode that allows you to shoot two 640-by-480-pixel images per second for up to five seconds. It can send its images out several ways—via a serial cable, PC card, or video out, or directly to a printer. Now *that's* a versatile camera.

A couple of rough spots for the PhotoPC 700: We were unable to get the software to properly recognize the camera when hooked

up to a PowerBook, although by using the Lexar PC card adapter we were able to transfer the pictures to our 'Book with no problem. Also, we killed four batteries in a very short time. (Of course, that's not exactly uncommon. Most digital cameras will do the same, especially when using the LCD display.)

When we put the PhotoPC 700 through its paces, it performed beautifully, except for the aforementioned connectivity problems and its battery-sucking tendencies. One final hitch: When we attempted to shoot a panorama of one of the best bathrooms in the world (in Eureka, California's Ink People Center for the Arts, painted by Duane Flatmo), we were stymied after the fourth take each time we shot a series. Perhaps it didn't like the lighting conditions—or maybe it was sensitive to the subject matter.—*David Reynolds*

GOOD NEWS: Good image quality.

Tons of features, such as direct printing, continuous shoot mode, and digital zoom. Will accept 37mm lenses.

Offers a black-and-white mode. **BAD NEWS:** Sucks up battery power. Serial connection doesn't seem to work properly with PowerBooks.



HERE ARE THREE IMAGES shot at the same time of day in the same location but using the three modes offered by the PhotoPC 700. We intentionally shot a bright area with deep shadows to see how the PhotoPC handles a wide dynamic range. As these images reveal, the PhotoPC 700 has an image-quality setting for every purpose.



Standard Mode



Fine Mode



Superfine Mode

Photo by KB



RedJack: Revenge of the Brethren

FUN & GAMES

COMPANY: THQ

CONTACT: 818-225-5167, <http://www.thq.com>

PRICE: \$49.99 (SRP)

REQUIREMENTS: PowerPC 100MHz or faster, System 7.1 or later, 24MB of RAM, 65MB of free hard disk space, 4X CD-ROM drive

Avast there, landlubber. If ye be of mind to join a pirate band, here's a raunchy, roistering crew of rogues and cut-throats who'll test your mettle—and maybe spill your guts in the process.

RedJack: Revenge of the Brethren is a bloody tale of dishonor, treachery, and betrayal, set against vividly animated Caribbean backdrops. Meet the scum of the earth—brigands, privateers, thugs, ghosts, and assassins—as you sail to exotic islands in search of a fortune in lost treasure. And revenge.

RedJack, the scourge of the Seven Seas, has been dead for 17 years, betrayed by one of his own men. Now his surviving crew have reunited to find RedJack's lost treasure and divvy it up, but a mysterious villain in black and his army of trained Janissaries are killing them off one by one.

You watch the story unfold through the eyes of Nicholas Dove, a young man also being hunted by the Janissaries. As you walk through the woods one night on an island off the coast of England, two dark-cloaked killers attack you. To save your life, you must pass a pirate test and join the crew of Brethren, temporarily in port. Then you sail off with them to face a series of hair-raising adventures.

It isn't smooth sailing, though. You rub elbows with some of the nastiest critters ever to dance on a dead man's chest, such as Lyle,

REDJACK'S ISLAND is an eerie place where you face many dangers and unearth many secrets.



a gruff, snaggle-toothed brigand with a potty mouth (he may be profane, but he'll save your bacon from time to time); Captain Justice, an honorable sea captain in spite of his profession; Bone, a skinny bully who wants you dead; and Anne, a pirate wench who is pretending to be a man.

As with all adventure stories, RedJack is packed with puzzles, most of which fit seamlessly into the story. If you listen to conversations for clues, you get a fair idea of what you have to do. A few puzzles are frustrating: Juggling gems to open a gate to RedJack's island grave takes numerous attempts, and trying to cross a pit of lava without frying to a crisp is an exercise in exasperation.

The answer, of course, is to save often—especially since the game mixes adventure with action. You quickly learn to thrust and parry in a series of sword fights, fire cannons at enemy ships, dodge bombs and daggers, and brandish a pistol in shoot-outs. Framed and jailed in Port Royal for the murder of your captain, you must break out and blast your way through a whole gaggle of British troops. You even take a wild ride in a mine car, firing a cannon and dodging Janissaries as you go. If you don't learn fast enough, you die. Most of these fights come up unexpectedly, so without a recent game-save you may get killed and have to repeat a lot of ground.

The graphics and unrestricted 3D panning are stunning. The characters are as colorful as the backdrops, though the language and vivid gore rule out the game for many younger

A PIRATE WHO BREAKS THE RULES always meets a watery grave, particularly when a dishonest enemy manipulates the evidence.



BEWARE OF BONE, the jealous first mate. He hates you so much he'll try to frame you for the captain's death.

players. Also, RedJack hogs memory; you'll probably have to use virtual memory just to keep it running. Because of this, scene changes and transitions may be noticeably slower, but be patient—they work eventually.

If you can overlook the stiff memory requirements, RedJack offers a rich variety of hired assassins, skeletons, troops, and Spanish galleons for your battling pleasure, as well as a chain of mysteries to solve and a massive treasure to claim. You might even end up with the girl—if she ever stops pretending to be a man.—*John Lee*

GOOD NEWS: Adventurous plot.

Rich, colorful animations. Most puzzles fit story nicely. Good mix of action. **BAD NEWS:** Memory hog. Gore

and language rule out younger audience.





Kids' Stuff

Rockett's Tricky Decision

COMPANY: Purple Moon

CONTACT: 888-278-7753 or

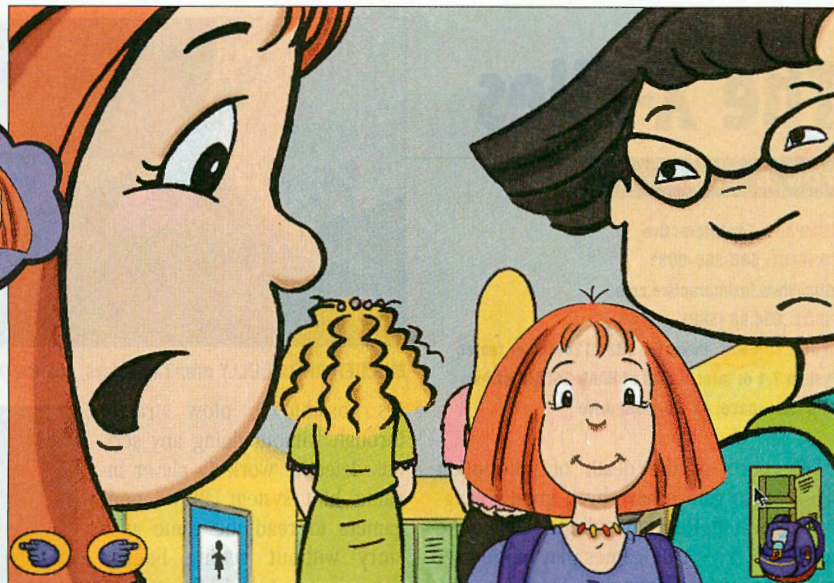
650-526-5000, <http://www.purple-moon.com>

PRICE: \$29.95 (SRP)

REQUIREMENTS: 33MHz 68040 or faster, System 7.1 or later, 5MB of free RAM, 10MB of free hard disk space, 2X CD-ROM drive, 256-color monitor

Purple Moon is racking up points with its software, whose *cause célèbre* is "friendship adventures for girls." Rockett's Tricky Decision, the second installment in the Rockett series, presents a set of challenging choices to girls, who must determine Rockett's path and the social consequences of her decisions. The tricky choice is which party Rockett should go to on Halloween.

We asked our kid reviewer, Maria Kern, what she thought of the adventure.



YOU DECIDE ROCKETT'S fate in Rockett's Tricky Decision.

She said, "You have to decide which party Rockett goes to. Mavis is Rockett's lab partner; Rockett really hates lab. Nakili's party has more stuff. I made Rockett go to both parties!"—Jennifer Ho

GOOD NEWS: Highly interactive. Lots of choices. Interesting animations.
BAD NEWS: Gender-specific title. No equivalent for boys.



Kid Pix Studio Deluxe

COMPANY: Broderbund

CONTACT: 415-382-4740,

<http://www.broder.com>

PRICE: \$29.95 (SRP)

REQUIREMENTS: 25MHz 68030 or faster, System 7.0.1 or later, 3.5MB of free RAM, 39MB of free hard disk space, 2X CD-ROM drive, 256-color monitor



THIS FAMILIAR SUITE helps kids explore their creative side.

aloud, export your creations to other apps, and add and record sound. Our kid reviewers, Maria and Olivia Kern, loved the animations that accompany actions and tasks—especially the bomb animation that appears when you erase work.—Jennifer Ho

GOOD NEWS: An awesome creativity suite for kids ages 3 to 12.
BAD NEWS: Kids have to stop and eat dinner.



Freddi Fish 3: The Case of the Stolen Conch Shell

COMPANY: Humongous Entertainment

CONTACT: 800-499-8386

or 425-867-2596,

<http://www.humongous.com>

PRICE: \$29.99 (SRP)

REQUIREMENTS: 25MHz 68040 or faster, System 7.0 or later, 8MB of RAM, 2X CD-ROM drive, 256-color monitor

Freddi Fish, the popular children's character, is back with Luther. They must catch the culprit who stole the Great Conch Shell. In Freddi Fish 3, you get to meet Rosy Pearl, Pierre the Tailor, and Nadine the Narwhal.

The best part is that gameplay is different each time. Our kid reviewer,



LOOK AT FREDDI AND LUTHER in this scene as they try to locate the missing conch.

Olivia Kern, loved the full-screen animations, especially of the police fish, and the bright characters. It was better than TV.—Jennifer Ho

GOOD NEWS: Easy navigation. Great animation. Challenges kids to solve puzzles. Hidden surprises.
BAD NEWS: Your kids will ignore you if they are playing.





The X-Files

FUN & GAMES

COMPANY: Fox Interactive

CONTACT: 888-369-0031

<http://www.foxinteractive.com>

PRICE: \$54.98 (SRP)

REQUIREMENTS: PowerPC 603e 120MHz or faster, System 7.1 or later, 12MB of RAM, 250MB of free hard disk space, 4X CD-ROM drive

Reports of the death of full-motion video games have been greatly exaggerated. Recently eulogized as a relic of pre-3D days, FMV games play out in pre-recorded video segments featuring live actors. Most FMV games were deservedly maligned as too stiff and restrictive or as featuring awful acting—even the best games of the genre are often torture to play. Fox Interactive's *The X-Files* has changed all of that. Despite some irksome issues, it's the best adventure game of the year and the best FMV game yet. It represents what FMV can do when quality production underlies the game.

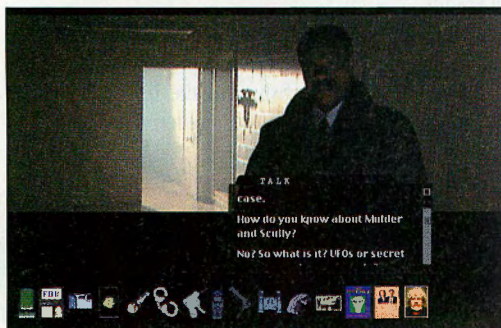
The *X-Files* game feels real and is as deep and challenging as you make it. While

X-TIPS

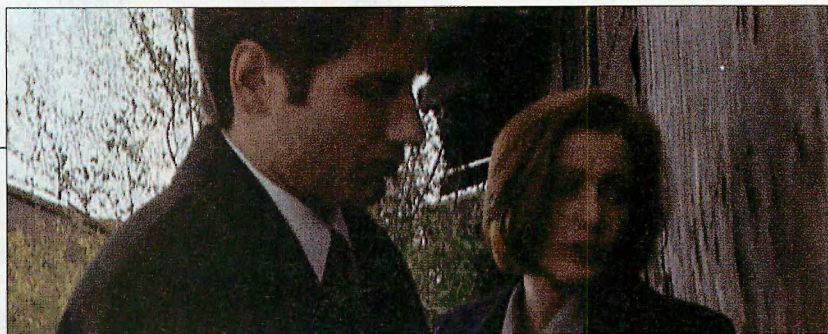
Save yourself: The game offers only three save slots, but there's an undocumented way to do unlimited saves. At the main menu, hold down the Shift key before you press Save or Load and you'll have access to a Mac Save dialog box.

Experiment: Something as unremarkable as choosing one emotion over another may give you access to entire new plot lines.

Use your tools: Your camera, night vision, and binoculars are crucial to certain elements of the game. When you can't think of anything to do, try them.



BE POLITE to the cagey X, or the game is over.



MULDER AND SCULLY aren't the stars, but *The X-Files* game still thrills.

it's possible to plow straight through without doing any serious detective work (a clever in-game hint system allows non-gamers to read the game as a story without getting bogged down in gameplay), the inquisitive player can do some surprisingly realistic investigating.

At the heart of *The X-Files* is a stunningly simple and effective interface. Graceful, flexible, and meticulously designed, it's easy to use and never gets in the way of gameplay. The inventory system is a basic point-and-click affair. Conversation is effortless and inventive: You can ask a predefined list of questions, click on "idea icons" to begin conversations, or react by selecting from a series of emotions. Be forewarned, you must choose your actions wisely; say the wrong thing or react inappropriately and you could be in deep trouble. Say the right thing, however, and a new subplot or shortcut appears. The only glitch is the save system, which permits only three saved game slots.

The production quality makes the game stand out. The video segments are vivid and clear, and every frame of footage was shot specifically for this game—no editing-floor scraps here. Each element of the game, including excellent cinematography, natural and interesting dialogue, spare but effective music, and first-rate acting, speaks of professionalism and artistry.

Despite Fox Interactive's prerelease claims, the show's famous Mulder and Scully don't star here—but they do play significant supporting roles. Though this may seem a shortcut typical of cheap tie-in games featuring celebrities, the game compensates fans amply with strong performances from the stars. In the game, you play Special Agent Craig Willmore, a young agent assigned to locate the missing Scully and Mulder. Once found, the duo enlists



REACT TO OTHERS with specific questions, or pick your emotional response.

your help in uncovering a conspiracy between aliens and the government. Numerous actors from the TV series make appearances both large and small. The game even features Lauren Tewes of "The Love Boat" fame in a surprisingly stern performance as a medical examiner.

While the story line—conceived by Chris Carter and edited by Frank Spotnitz—is brisk and suitably convoluted, it initially feels cobbled together from well-trod *X-Files* elements. Closer examination, however, reveals subtle new plot elements that an upcoming episode will explore, according to Fox. And like any good *X-Files* episode, the game leaves several questions unanswered.

While flawed, *The X-Files* game satisfies both hard-core fans and newcomers and delivers the promised immersion into the *X-Files* universe. All players should find it a rousing good time—a very smart game with plenty of action and mental challenges.—Greg Kramer

GOOD NEWS: Outstanding interface.

Simulates real detective work.

Beautiful FMV. Good story.

Accessible to nonfans, but satisfying to hard-core followers. **BAD NEWS:** Story a bit predictable. Terrible save system. Four discs don't feature Mulder and Scully.



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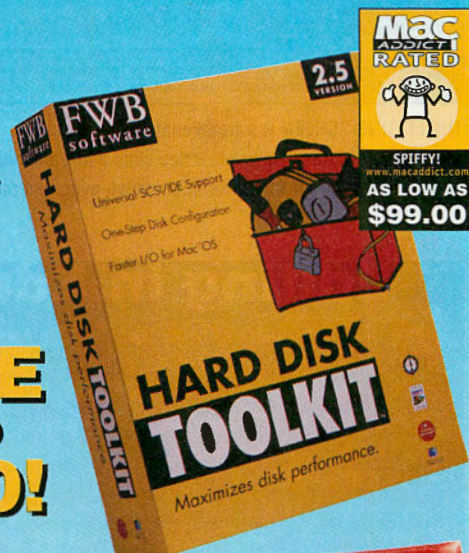
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Avid Cinema 1.2.1

GRAPHICS & SOUND

COMPANY: Avid Technologies

CONTACT: 800-949-2843, <http://www.avidcinema.com>

PRICE: \$139 (SRP)

REQUIREMENTS: Power Mac G3, 32MB of RAM, System 8.1, CD-ROM drive

The new version of Avid Technologies' Avid Cinema easily could have been named Video 101. For home, business, and education users who don't know a head shot from an establishing shot, Avid Cinema 1.2.1 is a one-stop software tool. It is conveniently divided into four screens, each corresponding to a different step in the video production process and represented by a tabbed folder to facilitate movement between windows.

The first screen, Storyboard, offers shooting tips and a list of suggested shots a video should have, depending on the type of project you want to create. When Avid

Cinema fires up, you see a selection screen that provides lists of templates for common videos, broken into three categories: home, school, and business. The Birthday Party template, for example, begins with a shot of the cake and suggests specific images of guests arriving, presents being opened, and children enjoying themselves. Storyboard offers editing tips based on what video you have brought into Avid Cinema, and how that video matches up to the Storyboard suggestions. The editing Storyboard also provides a rough way to assemble your clips. Each clip, presented as a thumbnail, can be dragged and dropped into any order you desire, creating a sequence of clips that you can finesse later in the Edit Movie screen.

The second tabbed screen is Bring Video In, the digitizing interface where Avid Cinema captures video from a video camera. If you follow the program's suggested shot plan, you match your clips to the plan for a quick-and-dirty autoedit of the video. Even if the shots don't match up, the clips still appear in the Storyboard's editing function screen for assembly.

Avid Cinema's third screen is the Edit Movie window, where you can trim shots to



AVID CINEMA IS AN EXAMPLE of powerful simplicity. Choosing among these preset templates gets a project off to a quick start.

desired lengths, rearrange shots just as in the Storyboard editing window, add sound tracks and titles, and insert transitions between clips. Of all the windows in Avid Cinema, this one is the most like a traditional digital video program, with the clips arranged sequentially in a visual timeline. Unlike most digital video applications, Avid Cinema's timeline window is incredibly intuitive and easy to use, and takes full advantage of drag-and-drop transitions and visual cues.

The final tabbed window is the output screen, Send Movie Out. After finalizing a project, you can select from Avid Cinema's preset output options. Presets include CD-ROM, Web, and videotape distribution. Depending on the final display format, Avid Cinema will output video optimized for the delivery method.

Avid Cinema's greatest strength is its simplicity. Extensive visual cues, an intuitive interface, complete drag-and-drop support, and tremendous help features all make it a powerful solution for users inexperienced with digital video. As wonderful as all this simplicity is, once prospective digital video makers master Avid Cinema's tricks, they will want to do more than Avid Cinema is capable of performing. And unfortunately for owners of older Macs, Avid Cinema works on Power Mac G3s only. Still, Avid Cinema costs hundreds of dollars less than competing products, works beautifully, and provides an easy introduction to the world of digital video.—Rick Sanchez



THE EDITING SCREEN is a traditional editing timeline, which provides easy access to video clips and transitions, as well as additional tracks for titles, voice-over, and music.

All-in-one

Editing in Education

Following in the footsteps of the Mac Classic is Apple's warm-up pitch for the iMac, the Power Macintosh G3 All-In-One. The G3 All-In-One is a study in well-designed computing. It comes equipped with a wicked fast 233MHz or 266MHz G3 processor, 4GB hard drive, 32MB of RAM, 24X CD-ROM drive, Zip drive, built-in speakers, 15-inch monitor, 10BaseT Ethernet, ATI Technologies' 3D Rage Pro video accelerator card, video capture, and two front headphone jacks. The inclusion of Avid Cinema with the 266MHz G3 model will help schools train new generations of videographers! Avid Cinema is by far the easiest digital video editing application available to Mac users, and both students and teachers will applaud its ease of use.



GOOD NEWS: Inexpensive. Easy to use. Surprisingly powerful.

BAD NEWS: Runs on G3 machines only. Lacks the editing features of higher-end applications.



reviews

Kai's SuperGOO

FUN & GAMES

COMPANY: MetaCreations

CONTACT: 805-566-6200,

<http://www.metacreations.com>

PRICE: \$49.95 (SRP)

REQUIREMENTS: PowerPC, System 7.6.1 or later, 16MB of free RAM, 40MB of free hard disk space, CD-ROM drive, 16-bit video recommended

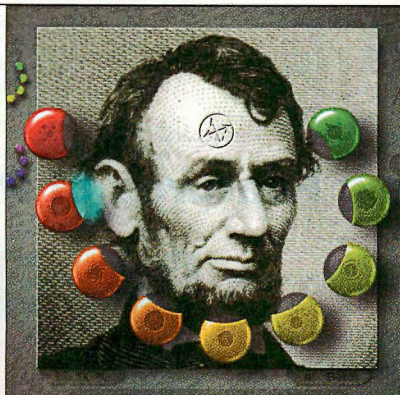
PowerGOO fans, rejoice! The latest GOO spawn from MetaCreations has arrived. SuperGOO, the successor to PowerGOO, extends and improves GOO's fun-filled image manipulation features while retaining the colorful, easy-to-use interface you've come to know and love.

SuperGOO is divided into two main rooms, the GOO Room and the Fusion Room. You can share images between the two rooms, each of which provides a unique GOOing experience. PowerGOO enthusiasts will be happy to know that many of their favorite brushes have survived the evolution into SuperGOO. The GOO Room, essentially a workspace, features brushes that allow you to pinch and bulge, twirl, smear, smudge, nudge, and smooth images. And don't forget to add effects, including zigzags, waves, ripples, and twirls. Meters allow easy control of brush size and flow. You can even add styled text to your GOODads, a great feature for adding funny captions.

The Fusion Room allows you to relive your Mr. Potato Head-infested youth. Ah, nostalgia. After choosing a base face, you can add hair, eyes, a nose, and accessories such as hats or glasses. Feel free to resize and distort facial features: You can make



THE FUSION ROOM allows you to relive your Mr. Potato Head days.



THE GOO ROOM allows you to GOO and unGOO images of individuals such as Abe Lincoln. Not only can you stretch, push, smear, and smudge faces, you can also add effects such as ripple and zigzag.

someone's nose gigantic or gracefully small, or bug out their eyes to produce comic effects. Better yet, SuperGOO allows you to mix gender-specific parts to create truly unique individuals! It even offers a mutate button, which randomly generates a GOO-human for you.

Importing and exporting images is a snap. You can use TWIN to acquire images or import BMP, PICT, PSD, TIFF, JPEG, FlashPix, or PhotoCD images. Images can be exported in any of these formats as well.

Making GOOVies is easy, too. We GOOed Abraham Lincoln, one of the images included in SuperGOO, and created a GOOvie in about 10 minutes. This GOOvie, either in QuickTime or PICT series format, is then ready for use in most multimedia applications. The cool thing about GOOVies is that when you play them, you can watch your fantastic transformations appear as animations. You can loop GOOVies, too. We can only imagine what Dancing Baby GOOVies will soon appear on the Web.

SuperGOO's only drawback is that it runs slowly on some machines. We recommend a 150MHz Power Mac or faster, unless you don't mind waiting seconds of eternity for something to happen after you select a transform action.—Erik J. Barzeski

GOOD NEWS: Fun for hours. Easy to learn. Reads, writes multiple image formats. **BAD NEWS:** Doesn't work well on slower machines.



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GRAPHICS & SOUND

How to Use the New Features of Photoshop 5.0

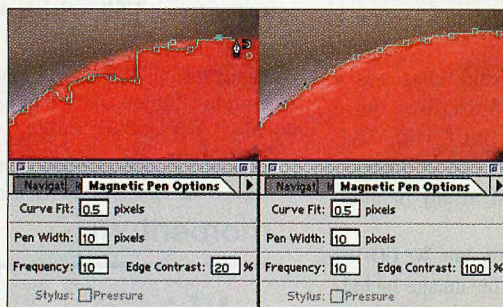
by Steve Anzovin and Raf Anzovin

Adobe Photoshop 5.0 is one of the most significant upgrades of the year—if you never upgraded to version 4.0, now is the time to move up. But version 5.0's new capabilities and tools are complex, and the documentation—though thoroughly professional, as Adobe documentation always is—doesn't scratch the surface of what you can do. So we've cooked up a few how-tos to get you deeper into the new History palette, Snap-To-Edge Selection and Pen tools, Type box, and Layer effects. In addition, we've used images included on the Photoshop 5.0 CD so you can work with the same material.

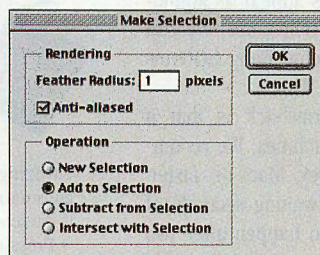
Over the Edge

You probably spend half of your time in Photoshop cutting images out of their backgrounds. The new magnet feature of the Lasso and Pen tools can really cut down the time needed to do this—as long as you make the right adjustments. Here's how.

2 The pen may not follow the edge as closely as you'd like. Open the Magnetic Pen Options palette. Turn up Edge Contrast very high, to about 100. Make sure that Curve Fit is at the minimum value of 0.5 pixels. Higher values give you a smoother line, but aren't as accurate.



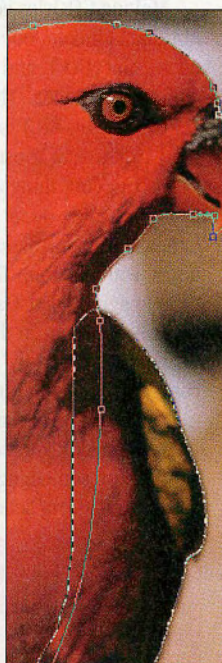
3 Once you've created the path, you may need to adjust some areas slightly by dragging the control points.



4 This image has some depth-of-field problems—the parrot's left wing is slightly out of focus and has a blurry edge. Trace a second magnetic path for that area. From the Path palette, choose Make Selection for one path. Then choose Make Selection with the Add To Selection radio button selected for the other path. For the blurry-edged selection, specify Feather Radius as 1 pixel in the Make Selection box to preserve the depth of field.



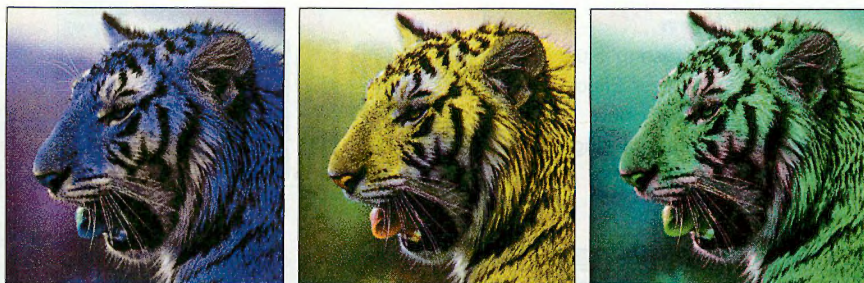
1 Click and hold the Pen tool to select the new Magnet Pen (the one with the little magnet). Pick an edge and start drawing a path. Voilà—the path follows the edge! Try to keep close enough to the edge so the path doesn't pick a new edge to follow. Whenever you have to change direction, click to force a new point.



5 Now you can paste the parrot onto a new background.

Changing History

"Tyger! Tyger! burning bright," wrote William Blake—and we want this tiger to burn with a psychedelic flame. We could have done this in earlier versions of Photoshop, but the History palette in version 5.0 makes painting in all the colors a lot easier and more controllable. And did you know that you can return to any previous state of your work and paint into it with any other state, either earlier or later, as long as you've got the scratch disk space to hold it all? It's kind of like being able to manipulate history across infinite parallel timelines—you know, it's called the *Sliders* effect.



1 Create several versions of the tiger tinted in different colors. Choose Hue/Saturation from the Adjust submenu of the Image menu, and play with the sliders until you get the colors you like. Black-and-white values are not affected.



2 Open the History palette. Note that each Hue/Saturation operation has its own line. Select each line and make it into a snapshot by choosing Make Snapshot from the pop-up palette menu. This saves each state as a separate file, so you won't lose it even if you run out of scratch disk space. Also choose History Options from the pop-up menu and make sure Allow Nonlinear History is checked. That way you aren't trapped in standard causality.



3 Click the little box to the left of any line in the History palette to enable the History brush. It allows you to paint on the currently displayed image with the state you select. It's magic! Brush the tiger with any Hue/Saturation state to add color.



4 For the yellow halo, use a wide brush set to Overlay mode (from the Brush Options palette) to paint around the tiger. Use the Smudge tool to make the spiky flames.



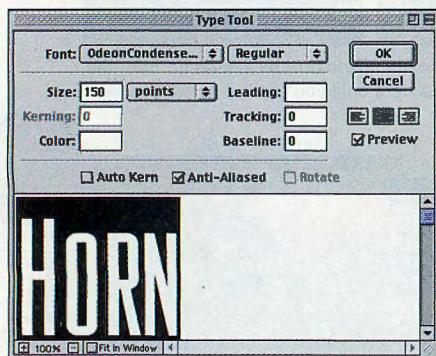
5 Let's restore some of the original tiger using the History brush. In the History palette, choose the original image state, enable the History brush for that state, and carefully paint the edge of the tiger back in. Using the brush in Overlay mode blends the original image with the spikes.



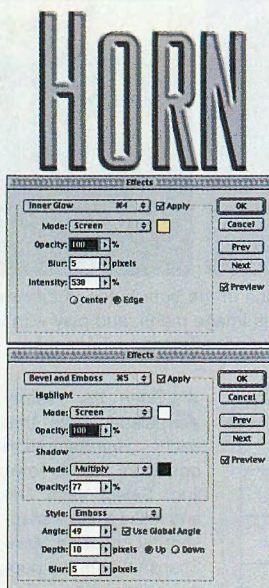
6 After some final tweaking using Dodge and Burn, the image is done.

Come Blow Your Horn

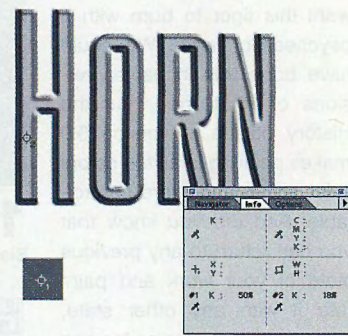
This how-to combines Photoshop 5.0's new Type tool capabilities with Layer Effects, displacement mapping, and new Color Correction features to create a flügelhorn refracted through green glass letters.



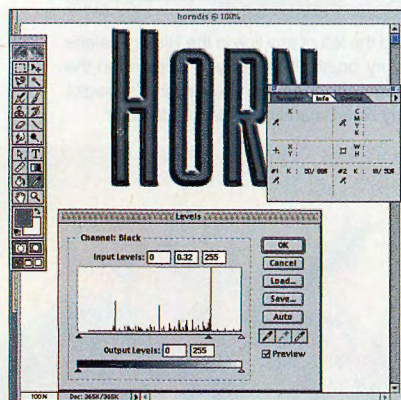
1 Choose the Type tool and click in your document to open the Type box. Check out the new features. Baseline shift! Kerning! Colors! When you place the type on the image, it goes on its own Type layer.



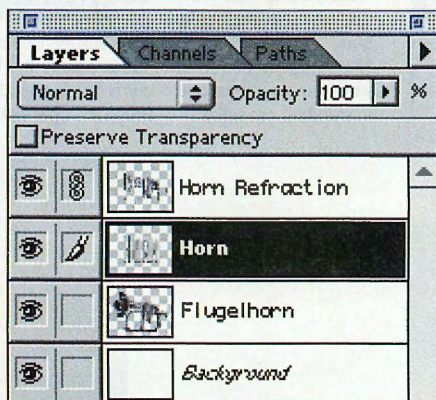
2 In the Layer menu, you'll see a new Effects option with various special effects. Apply the Inner Shadow, Inner Glow, and Emboss layer effects to give the letters some depth.



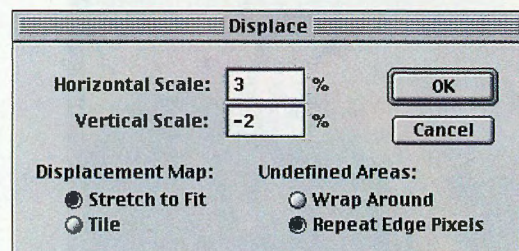
3 Now create the displacement map for the type, which will give you the refraction effect. Flatten the document to one layer, if it isn't already in that state; the remaining layer will be the type layer. Go to the Image menu and change to Grayscale mode. Paint a 50 percent gray swatch. Use the new Multiple Color Sampling tool (it's a pop-up option for the Eyedropper) to sample the 50 percent swatch and the center of the H. In the Info box, you'll see that it reads 50 percent for the swatch (sample 1) and 18 percent for the letter (sample 2). That's a 32 percent difference.



4 Using the Levels control in the Adjust sub-menu of the Image menu, change the middle input level to 0.32. The Info box should now read 50 for sample 2. If it doesn't, tweak the adjustment until it does.

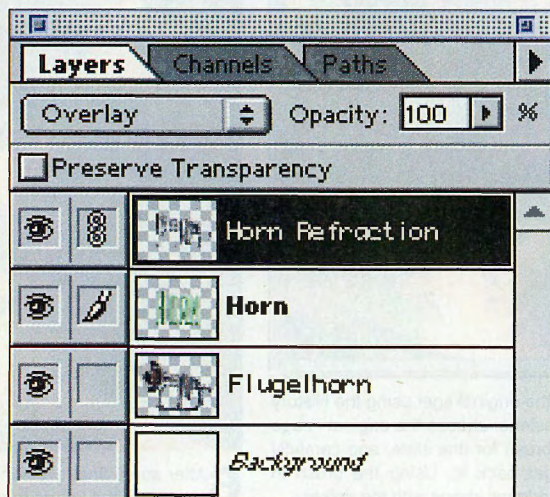


5 Now open the flügelhorn image and Command-drag the Horn layer (containing the letters) from your original document over it. Name the flügelhorn layer *Flügelhorn*. (Makes sense, doesn't it?) Copy that layer and call the new layer *Horn Refraction*. The order of layers must be, from top to bottom, Horn Refraction, Horn, and Flügelhorn.



6 Choose the Horn Refraction layer and apply the Displace filter (under Distort in the Filter menu). Use a setting of 3 percent horizontal and -2 percent vertical. Now the image is warped as if refracted through glass.

7 Choose the Horn layer and apply the Render command (under Type in the Layer menu). This converts the Horn layer from a type layer to a regular layer. Now extract the transparency information from the image. Do this by selecting the Horn layer with the Marquee tool, moving it around a little to shrink the selection to the edges of the type, and inverting the selection. Now go to the Horn Refraction layer; the selection will come along, too. Delete the selection. This will remove the areas of the Horn Refraction layer that go beyond the boundaries of the letters, so the layer won't affect any other part of the image.



8 Still in the Horn Refraction layer, make the letters bottle green. In the Layer palette, set the mode to Overlay. In the resulting image, glassy letters seem to refract the horn behind them!

Aladdin grants you three wishes.

Shipping not included.



StuffIt Deluxe is the industry-standard compression program for anyone who wants to upload or download from the Internet and take a lot less time doing it. StuffIt Deluxe 4.5 has faster expansion and works with more formats than ever. It works seamlessly on the desktop and within popular email programs, including Eudora, AOL, Claris EMailer and Lotus cc:Mail. An indispensable tool that keeps getting better and better.

StuffIt Deluxe



Add unlimited undos to all your favorite programs. Aladdin FlashBack lets you go back and retrieve any of your work. Recover overwritten, damaged, corrupted, and trashed files instantly. If you've ever hit save when you didn't mean to, you'll appreciate FlashBack. You'll never have to fill up your hard disk again with multiple "Save as..." files. It's great for graphics professionals, developers, gamers and anyone who wants the freedom to experiment, with FlashBack as their safety net.

Aladdin FlashBack



How did all this junk get here anyway and how do you get rid of it? Spring Cleaning is the assistant that makes it happen. Spring Cleaning 2.0, the #1 uninstaller for the Macintosh, performs all of the chores you need done. It quickly and completely uninstalls old software, finds duplicate files, fixes invalid aliases, removes old preference files, and organizes your fonts and files. Your Macintosh will run faster when it's in tip-top shape.

Spring Cleaning



DEVELOPMENT

How to Learn From the Web Pros

by Joseph O. Holmes

The Page: Levi's (<http://www.levi.com>)

The Designers: Levi's brand digital marketing team, with CKS Partners, San Francisco, plus Organic Online.

The Tools: Production is done mostly on Macs using Bare Bones Software's BBEdit 4.5, Adobe Photoshop, and Extensis Portfolio. Maintenance and delivery mainly via Windows NT. Servers are all Windows NT machines.

The Philosophy: To provide cool, interactive experiences to visitors in ways that are engaging, interesting, and highly personal. Content featured on Levi.com revolves around a trio of central themes: discover, create, and connect.

Why We Like the Site: It's totally unnecessary!

JavaScript

The Levi's page designers threw in some totally superfluous JavaScript just for fun. Click on any of the color swatches across the top (they appear on all the pages), and the main frame reloads with a matching background color (the lime green frame in our illustration).

If you're proficient with JavaScript, study the script in the frame document found at <http://www.levi.com/us/top.asp>. We don't have room for a full JavaScript lesson here—for that, grab a good JavaScript guide such as *JavaScript: The Definitive Guide*, second edition, by David Flanagan (O'Reilly & Associates)—but here's a quick look at how it works.

The onClick Handler

```
<A HREF="#" onClick="colorIt('lavender.gif')"><IMG
SRC="images/lavender.gif" WIDTH="41" HEIGHT="10" BOR-
DER="0"></A>
```

Each of the color swatches across the top of the page is a GIF image, hyperlinked to the JavaScript event handler `onClick`. Clicking on the link triggers the `onClick` handler. (Remember that only a few JavaScript commands, including `onClick`, can operate outside a pair of `<script>` tags.) The code `onClick="colorIt('lavender.gif')"` makes the `onClick` handler call the JavaScript function `colorIt`, using the argument `'lavender.gif'`.

That's how you get from click to the `colorIt` function. What does the `colorIt` function do? Check out the rest of the script, in the page's header, between the `<script>` tags.

What's a Function?

A JavaScript function isn't a gathering of programmers for a light meal. It's a bit of JavaScript code that the script writer defines, and it's meant to be executed many times throughout the script.

The colorIt Function

The `colorIt` function is defined in the header, inside the curly brackets:

```
function colorIt(theColor) {
  parent.frames[1].location = parent.frames[1].location.
  pathname + "?color=" + theColor;
}
```

The visitor's click determined which color had been selected. This part of the script changes the color of the window's second frame.

The function says to add `"?color="` + `theColor` to the target frame's path. (The code `parent.frames[0]` refers to the first frame in the window, whereas `parent.frames[1]` refers to the second.)

What the heck does changing the frame's path have to do with changing the frame's color? Well, Levi's keeps a CGI script on its server that looks at a frame's path. When it comes across the suffix `"?color="`, it changes the background of the frame to the color that follows.

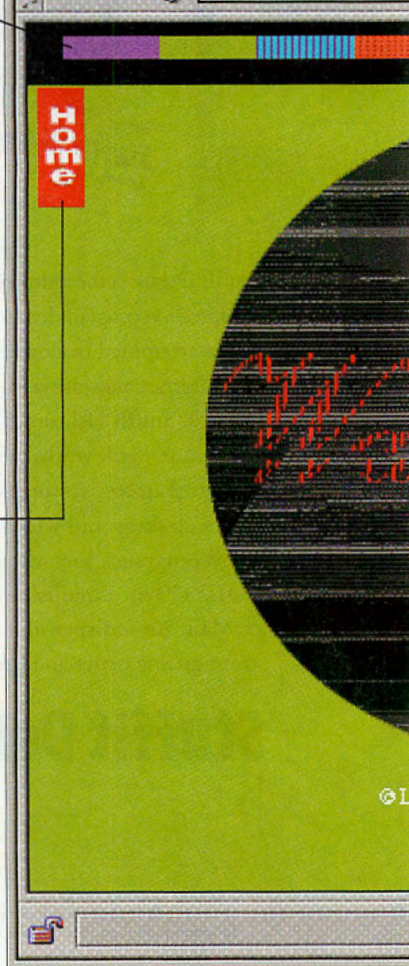
Now you have a basic understanding of how to call a function from a handler.

Animation

Of course it's not visible here in the magazine, but this logo is animated. The word *Home* rolls up to say *Levi's*. And the red tag, imitating the Levi's tag on the jeans pocket, links to the home page:

```
<A HREF="http://www.levi.com/" target="_top"></a>
```

If you remember our lessons on frames (Jan/98, p84, and Feb/98, p78), you'll know that `target="_top"` is a special target command to remove all of the window's frame structure and replace it with the hyperlinked document. This makes the hyperlinked document load into the entire browser window rather than into the current frame only.



Examine Frames

To look at the HTML of a site's frames, follow these steps:

Netscape Navigator

- Click on the frame and hold down the mouse button, then select New Window With This Frame from the pop-up menu.
- In the window that appears, select Page Source from the View menu, or select Save As... from the File menu and choose Source from the Format pop-up menu.
- The URL in Netscape's Location box will show you the frame document's title.

Microsoft Internet Explorer

- Click and hold on the frame.
- Select View Source from the pop-up menu.
- The page's title will show you the frame document's title.

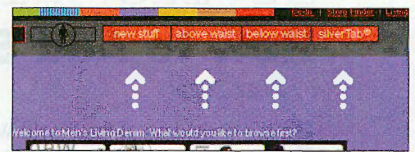
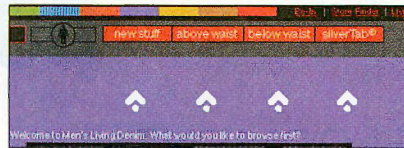
Navigation Design

There are many ways to help your visitors navigate, but none of them are useful unless viewers can spot the navigation tools.

These pointers in the corner of the page are hyperlinked to other pages, but surprisingly, they're not hypertext—they are actually small images.

The smart Levi's designers, however, chose a link-look-alike typeface and added underlining to make it obvious that visitors should click on these words.

You can use animation, too, to point out your navigation features. Please forget the oh-so-cool animations of flames, flashing logos, and spinning boxes. Stick with simple, small, clear movement that serves a purpose, such as the four rolling arrows the Levi's page uses to direct visitors' attention to the four navigation buttons on the Men's Living Denim page.

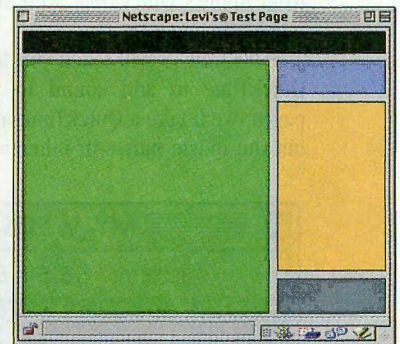


PROOF THAT A SITE can be flashy without being dopey. Remember, keep your animated GIFs small, and use as few frames as possible.



Frames

We've all seen horrible examples of overused frames, but here's a site that uses five, count 'em, five frames and still manages to look clean. The secret? Absolute minimal use of borders and scroll bars. Whereas many pages use table cells for layout, Levi's uses frames so that each part of the page can be manipulated separately.



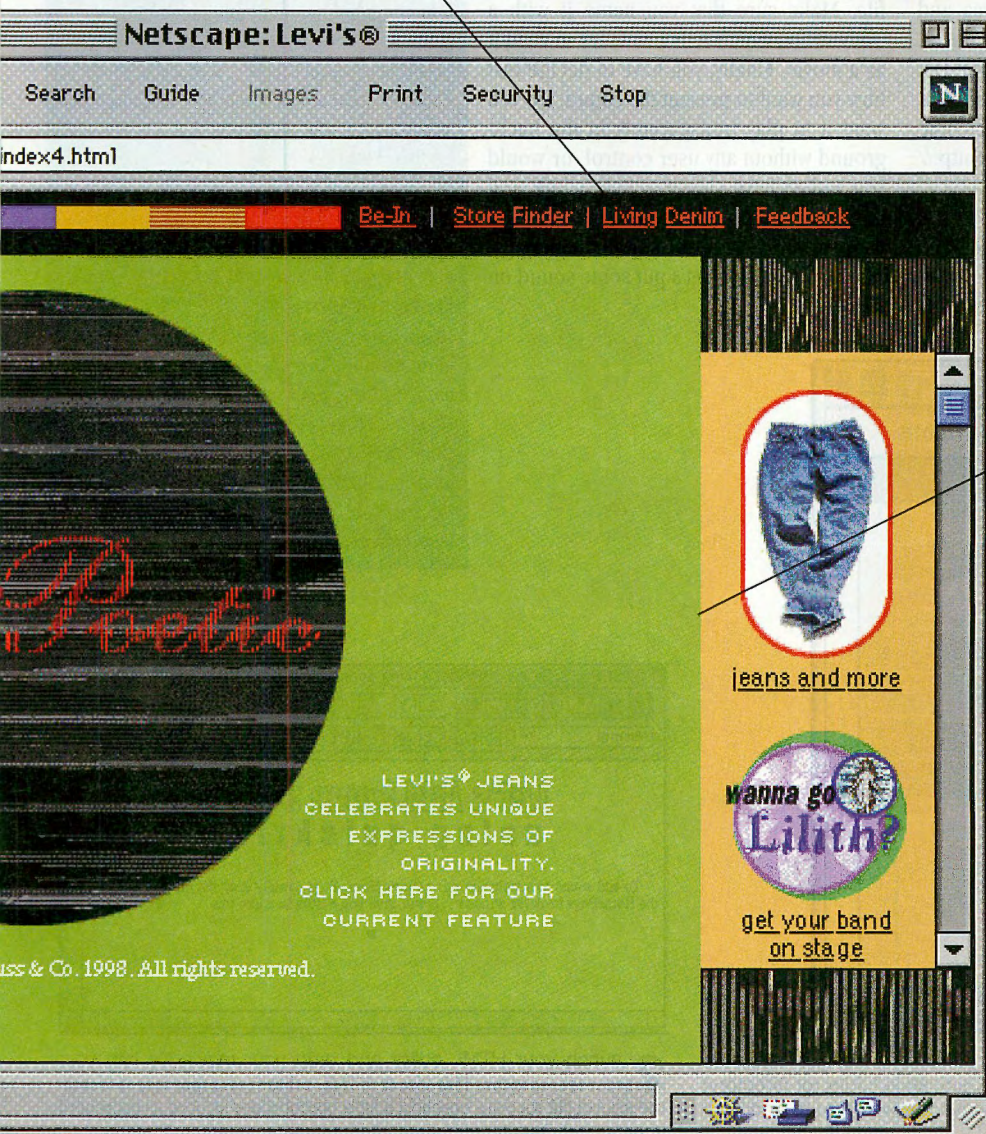
WE MESSED WITH THE HTML to create this view of the hidden frame structure.

What's the price? Levi's loses all those visitors with older and text-only browsers. The site doesn't even offer text-only or no-frames options.

That's a decision each Webmaster has to make, but in some cases, a flashy and cutting-edge Web site is the whole purpose of the site. After all, the Levi's Web site isn't critical to Levi's business; it's just fun.

If your Web site is your main interface with the rest of the world, you can't afford to do this. If your site is just eye candy, then by all means, go wild.

If you'd like to see a particular Web page deconstructed, drop a line to Professor Web at professor.web@pobox.com. Please remember that the Professor can't personally reply to every query.





DEVELOPMENT

How to Add Sound to a Web Page

by Buzz Zoller

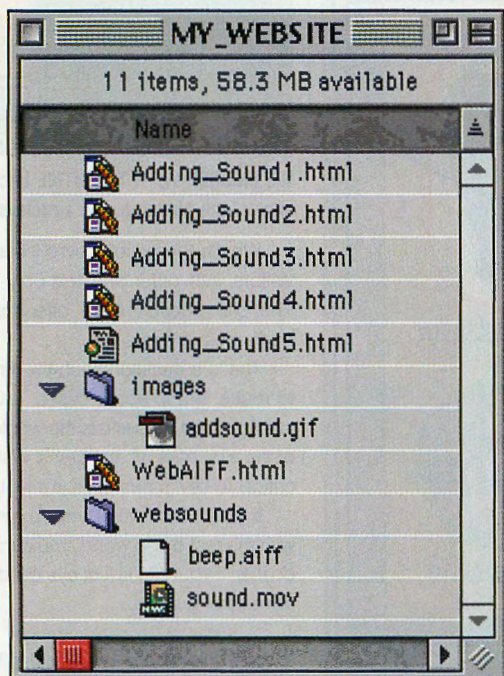
In the early days of the World Wide Web, everything was comprised of text and static images, which made for some pretty boring Web pages. Seeking to add some life to their site design, disgruntled Webmasters began to demand more-powerful tools—after all, multimedia was the buzzword of the day. Enter QuickTime, a wonderful tool for creating multimedia for the Web, which quickly cheered up those down-in-the-dumps designers. Apple's QuickTime technologies are one of the cornerstones of computer multimedia. It's no wonder that QuickTime is so widely used: It's tremendously versatile; it allows Webmasters to add moving pictures and sound; and it's available cross-platform. While QuickTime comes with the Mac OS, Windows packages do not include it. Windows users can download QuickTime from Apple's QuickTime Web site (<http://quicktime.apple.com>).

This how-to will teach you how to use QuickTime to add sound to your Web pages. We'll take a QuickTime movie without the movie part—in other words, just

the soundtrack for a movie—and embed it into a sample Web page using a few simple HTML tags.

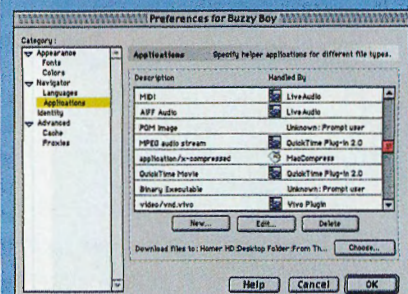
Aside from the sound file, to add sound to a Web page you need an HTML editor. The two most popular visual HTML-editing programs for the Mac are Claris HomePage 2.0 and Adobe PageMill 2.0. While these are both graphical editors, you still have access to the HTML source code in case you need to add special parameters. We'll use HomePage for this how-to, but you can easily adapt all steps in the process to PageMill.

The next thing you need is your movie file. Make sure that you name it with a .mov suffix, which tells browsers to read it as a movie. Finally, you have to decide just how you want to present the sound. Do you want it to play transparently in the background without any user control, or would you rather have viewers click a link and then hear the sound? Or perhaps you want your viewers to start the sound themselves? It's up to you. Now let's put some sound on the Web!



1 Organize your site. A well-organized Web site structure makes maintenance a breeze. Dedicate a folder (or directory) to your sounds. That way you'll always know where to find your sound files.

What About Plug-Ins?



For sound to work inside your browser window, a plug-in must exist for that file type. There are many plug-ins that can handle all of the common sound file types. To find out what plug-ins you have installed in Netscape Navigator, select About Plug-ins from the Apple menu. If you use Internet Explorer, select About Internet Explorer from the Apple menu, and then click the Support button. Here are three of the most popular audio plug-ins:

MacZilla Plug-In

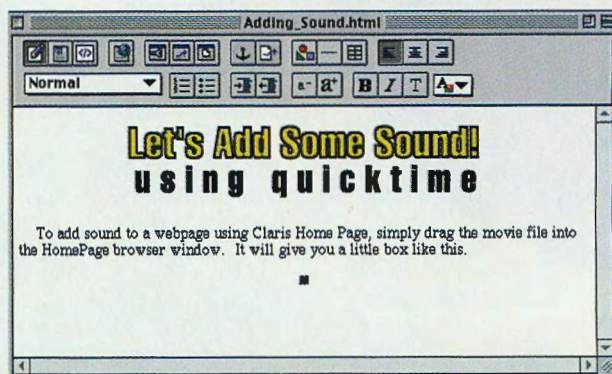
(<http://maczilla.com>) This popular plug-in handles many audio and video formats.

Beatnik Plug-In

(<http://www.headspace.com/beatnik/plug-in/index.html>) This relatively new plug-in handles most audio formats.

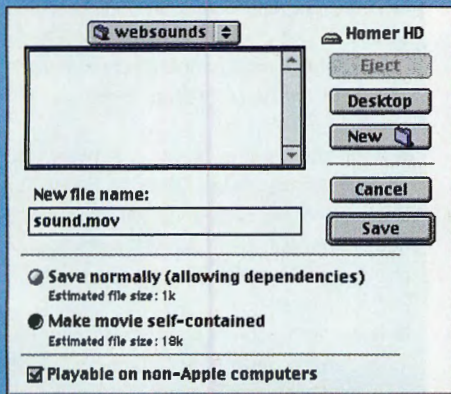
QuickTime Plug-In

(<http://QuickTime.apple.com>) The QuickTime plug-in comes installed with Netscape 3 and 4 for the Mac. You can reasonably assume that your viewers will have this plug-in.



2 Launch your HTML editor and drag your movie file into your browser window. The visual HTML editor automatically embeds the sound file for you, creating a little placeholder square to represent your sound visually.

Creating a Movie File From a Sound File



You can do this with MoviePlayer, which is installed as part of QuickTime. If you're using QuickTime 3.0, you'll need to upgrade to the professional version.

Step 1

Select a sound file you want to convert to a QuickTime movie. QuickTime can convert most sound formats, including WAV, AIFF, AU, and System 7 sound files.

Step 2

Launch MoviePlayer and select Import from the File menu. Then select your sound file and click the Convert button.

Step 3

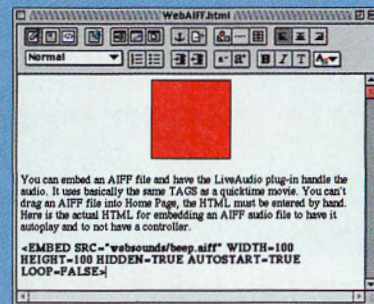
Select Save As from the File menu (you can also choose Export from the same menu).

Step 4

Click the Make Movie Self-Contained radio button and the Playable On Non-Apple Computers check box.

Note: You must flatten QuickTime movies to make them work on the Web. Mac files have two parts: a data fork and a resource fork. This effectively makes most Mac files too wide to travel the Internet. QuickTime movies often have both of these forks as well, which makes them unusable on the Web. Flattening them eliminates the resource fork and puts everything into the data fork. You can flatten a QuickTime movie by saving it from MoviePlayer as Playable On Non-Apple Computers. For more in-depth information on sound and the Macintosh, check out *MacAddict's "Know It All about Sound"* (Mar/98, p82).

Adding an AIFF File

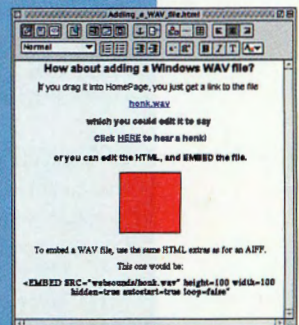


You'll have to hand-code the HTML when embedding an AIFF file, because HomePage can't handle them. The HTML for embedding an AIFF file with HTML looks remarkably similar to the code used to embed a WAV or QuickTime movie:

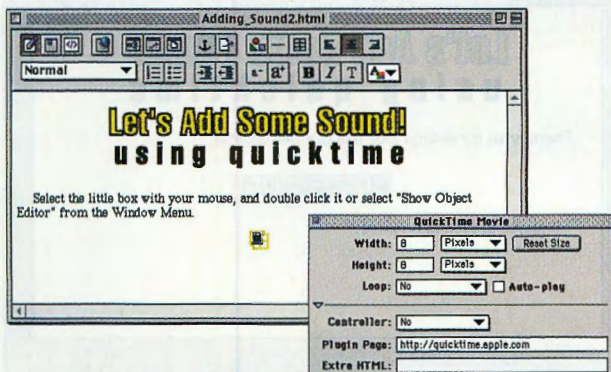
```
<EMBED SRC="websounds/beep.aiff"
width=100 height=100 hidden=true autostart=true
loop=false>
```

Adding a WAV File

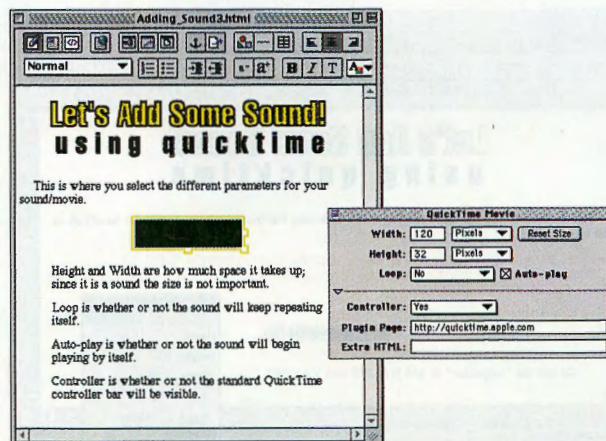
What about adding a WAV file? When you drag a WAV file into HomePage, the program inserts a link to the file that plays the sound when clicked. Alternatively, you can embed WAV files using the following HTML:



```
<EMBED SRC="websounds/honk.wav"
height=100 width=100 hidden=true autostart=true
loop=false>
```



3 Select the box representing your sound file, and then choose Show Object Editor from HomePage's Window menu. Or you can just double-click the square to call up the Parameter window.



4 In the open Parameters window, enter all of the parameters for your movie. The Width and Height tags are visual only; they determine how much space the movie placeholder takes up on the page.

QuickTime HTML Parameters

When using QuickTime to embed a movie file, you can add optional parameters in the HTML that specify such things as volume, whether to hide the movie, and whether the sound file loops. For more information on QuickTime HTML tags, check out the QuickTime Web Developers pages (<http://www.apple.com/quicktime/developers/index.html>).

Here is an example of how to use optional parameters in an embedded-movie HTML tag:

```
<EMBED SRC="websounds/sound.mov" VOLUME=124 PLUGINSAGE="http://QuickTime.apple.com"
HIDDEN=FALSE AUTOPLAY=TRUE
CONTROLLER=TRUE LOOP=FALSE>
```

Here's what the tag parameters mean:

VOLUME=0-256

You can specify the volume of the movie by setting the value between 0 and 256, with 256 being the loudest. If this parameter is not specified, it defaults to 256.

PLUGINSAGE=URL

You can specify an URL to go to if the viewer doesn't have the proper plug-in installed.

HIDDEN=true or false

This parameter specifies whether the movie is visible. If a value is not specified, the movie will be visible.

AUTOPLAY=true or false

This parameter determines whether the movie plays immediately. Its default value is false. Note that sounds added for use with the LiveAudio plug-in require an AUTOSTART tag instead of an AUTOPLAY tag.

CONTROLLER=true or false

This parameter indicates whether the QuickTime controller is visible. If you do not specify a value, the default is true. When you specify CONTROLLER=false, a QuickTime movie with only sound data will be invisible.

LOOP=true or false

This specifies whether the movie keeps playing repeatedly. When a value is not specified, it defaults to false.

The Rules of Sound on the Web

■ Don't use MIDI songs on your site. They usually sound cheesy, and though MIDI is a wonderful tool, most people don't want to hear your MIDI version of "Stairway to Heaven."

■ Keep the volume down. A sudden loud sound can cause a viewer to press the Back button immediately. (Of course, the occasional ear blast can be quite humorous if used in moderation.)

■ Keep your sounds short. Remember, the longer visitors have to wait for something to download, the more likely they are to give up.

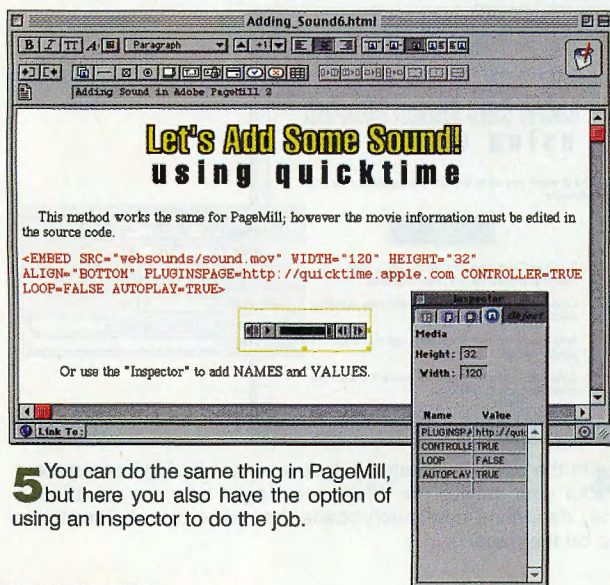
■ Put a link on your page to a site where visitors can download the plug-in necessary to hear your sound, or at the very least put the PLUGINSAGE parameter into your HTML.

■ Always use your own sounds. Don't swipe sounds from other sites without getting permission from the sites and crediting them on your site.

■ Be very careful about sampling music. That music is the intellectual property of someone else and is not yours to give out. Sampling music for your personal use is very different from sampling music and sharing it with the world.

■ Be bold. Be willing to give it a try, but give your viewers the option of hearing the sounds or not.

■ Forget the rules—have fun, impress the world!



5 You can do the same thing in PageMill, but here you also have the option of using an Inspector to do the job.

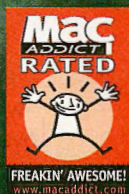
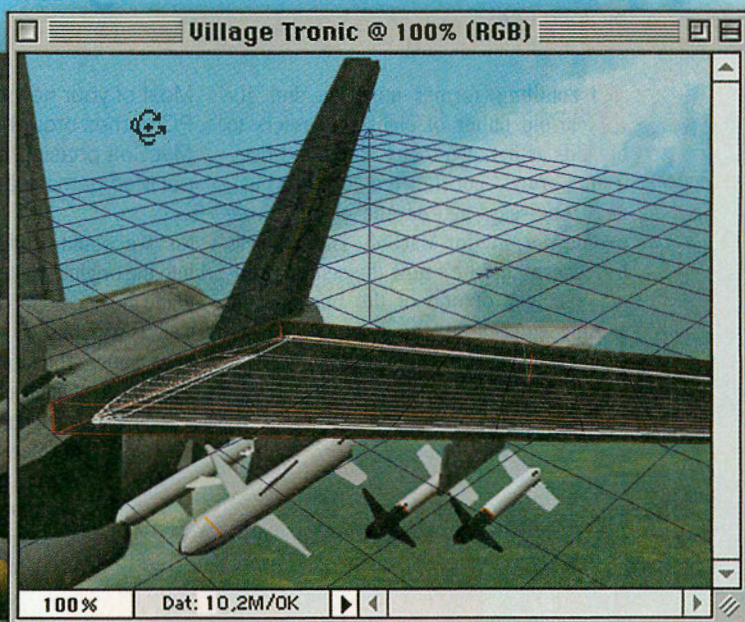


6 Finally, check out your work in a Web browser. If you're interested in understanding how the parameters change the movie in the Web page, tweak a few, save your work, and then reload the page in your browser.

Some people think, Voodoo is just for games. Not quite!



Screenshot from >F/A-16 Hornet Korea< Graphic Simulations



The 3Dfx interactive logo is a registered trademark of 3Dfx Interactive.

We haven't taken Voodoo just this little bit further. In fact VillageTronic is the first and only hardware developer on the planet to make the impossible happen: We tamed the insanely fast Voodoo hardware and forced its output into a 2D window. Yes you're right! 3D Overdrive is the only way to get every important 3D API you want and need in one board. Period.

- **RAVE** for your favorite 3D apps and games,
- **GLIDE** for incredible graphics with games as well as
- **OpenGL** to be prepared for whatever the future will hold.

So if your beloved WinTel buddy is around again, why not driving him nuts by showing off your new hardware? Oh and by the way please don't forget to tell him that 3D Overdrive is -of course- ... MacOS only!

What do the industry pundits say?

"3D Overdrive is the only 3Dfx card on the Mac that actually works!"

says Brian Greenstone, Engineer of the Quickdraw3D developer team at Apple Computer, Inc. and CEO of Pangea Software.

Expect the impossible from the Masters of Voodoo ... to be continued ...



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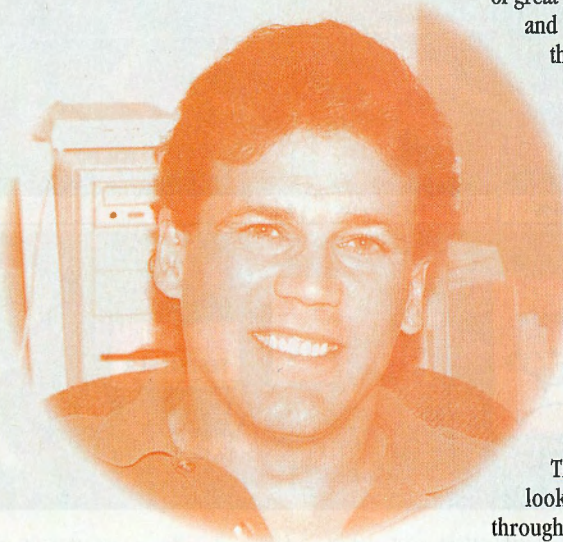


FUN & GAMES

MacSoft's Al Schilling talks gaming strategy

by John Lee

Al Schilling, former musician and 40-year-old father of eight—he refers to his kids as his own focus group and beta-testing army—got into the software business four years ago as one of only three people working for MacSoft. The business has grown, and he's now the senior product manager of one of the busiest Mac gaming houses in the country.



In the last year or so, you've turned a good game company into what may be the best Mac game publisher. Your list of recent titles reads like a gaming Hall of Fame—Civilization II, Quake, Duke Nukem 3D, Shadow Warrior, Master of Orion II, Unreal. To what do you attribute the rise to prominence?

Several factors have contributed to our success, but I think the primary reason for our rise to prominence is the attitude of everyone here at MacSoft. We didn't just get together and decide, "Hey, there's a market opportunity for Mac software—let's make some money." Everyone here from the top down is a real Mac person. We all use Macs because the Mac OS is our platform of choice. We are successful in the Mac industry because we understand the Mac software market.

Most of your new titles are ballyhooed PC games brought over to the Mac. Is MacSoft phasing itself out of the original Mac game market?

No. We would actually like to phase back into the original Mac game market. When we made the decision to become a developer as well as a publisher, we intended to do our own games. The fact is that there were a lot of great games being made for the PC, and no one was porting them to the Mac. In bringing all of these great games to the Mac, our hope is that people will recognize the viability of the Mac as a game platform, which will in turn result in more sales and more retail space for our products.

How do you decide which games to bring over to the Mac?

There are so many PC titles to look at. The first step is to wade through the junk to find the really good titles. In general, we won't even look at a title if it's not in the top 25. After selecting titles to go after, it becomes a matter of making a deal with the original developer or publisher.

Most Mac owners firmly believe that the Macintosh is the better platform. So games, even PC ports, should be better, too. What do you do to improve PC-to-Mac ports? Better interfaces? Add features?

One of the primary reasons the Mac is a superior platform is the Mac look and feel. Of course we try to introduce as much of the standard Mac interface as possible—save and open dialogs and so on. Often the major interface elements are actually part of the game code, so it is difficult to change them. When possible, we will try to introduce new features or fun stuff. The on-the-fly resolution-switching in Quake and the Mac-only Easter eggs in Duke are examples.

Who does your porting? Is it done in-house, or do you farm it out to groups such as Mark Adams' team at Westlake Interactive?

We are very fortunate to have some of the best talent in the industry working on our ports. Mark Adams and his group at Westlake are incredible! Mark did the Duke Nukem port, as well as Shadow Warrior and now Unreal. He also does the maintenance upgrades for Quake. It's this kind of dedication that has made Mark one of the better known programmers in the Mac community.

Also, Varcon Systems has done a lot of stuff with us—both ports and original content. They secured Amandeep Jawa to do the Civilization II port, and it was fabulous! Finally, we've got some wonderful talent working in-house. Alan Nelson, Kirk Sumner, and Brian Nesse do fabulous work. Their most recent efforts have been Master of Orion II, Top Gun, and Deer Hunter.

Has the buying public supported the recent increase in MacSoft titles?

We are delighted with the response from the buying public. When we were acquired by GT, we knew we'd have to prove to them that Mac software was a viable business. Duke was our first big post-acquisition release, and it was hot right out of the chute. I believe that Peter Tamte has been quoted as saying that Duke made a profit the day it was released. Our sales doubled (again) last year, and we're continuing to expand this.

Which new titles have been most successful so far?

Civilization II has been our best-seller. Duke and Quake have both done very well. Back on the strategy side, so has Master of Orion II.

How do you see the future of Mac gaming?

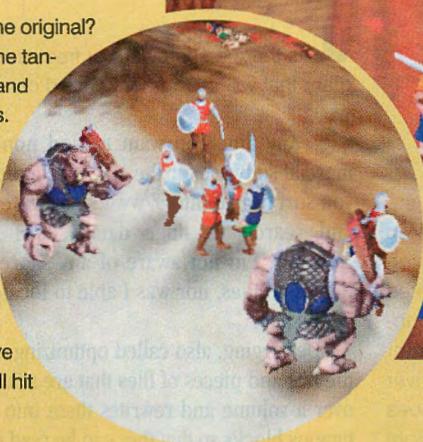
We're not going to see a huge increase until the Mac user base grows. That said, I think the Mac market is on the rebound.

PREVIEW

Myth II: Soulblighter

Bungie Software: 800-295-0060, <http://www.bungie.com>

Can Myth II: Soulblighter possibly be as brilliant as the original? Good question. The Mythsters at Bungie have some tantalizing answers. King Alric is back with his Warriors and Berserks, ready to do battle with a new set of enemies. The sequel will contain the eye-popping visuals of Myth: The Fallen Lords, plus these attractions: fortifications, animated drawbridges and windmills, indoor battles, powerful magic spells, 3D fire that sears the landscape and injures troops, and a terrain mesh four times more detailed than the original. Look out for exploding chickens and other livestock! Start recruiting bomb-tossing dwarves and deadeye archers for another bloodbath. Myth II: Soulblighter will hit stores late this year.—*John Lee*



power up

MYTH II TAKES THE FIGHTING INDOORS. Check out the new units.

PREVIEW

Total Annihilation

MacSoft: 800-229-2714, <http://www.wizworks.com/macsoft>

Total annihilation—one of the most celebrated real-time strategy games ever made—is coming to the Mac sometime this fall. The game's cool features include lush 3D landscapes and terrain; various ecosystems; more than 150 different vehicles and structures; combat over land, sea, and in the air; more than 25 missions per political affiliation; an advanced enemy AI worthy of the best players; scalable battlefield views; and a customizable game interface. You can annihilate your friends in network multiplayer mode via LAN, modem, and Internet. To top it all off, Total Annihilation will fill your ears with its original musical score, performed by a 95-piece orchestra.—*Jennifer Ho*



GET READY TO COORDINATE multiple units and attack enemy ships and buildings.

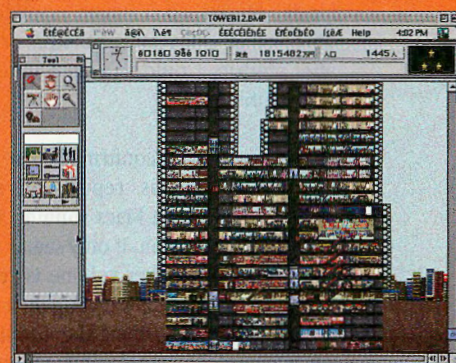
Teasers

Yoot's Tower

Sega Entertainment: 800-872-7342, <http://www.sega.com>

Get ready, brainiacs. Sega is releasing a new simulation game called Yoot's Tower. Developed by Yoot Saito, the creator of the classic SimTower, Yoot's Tower is an exercise in strategic thinking and high-rise management. The object is to build a five-star resort structure with limited funds—not an easy task! Not only must you select the perfect site and plan every step of construction, you also have to keep your renters happy. The AI is so advanced that game characters actually get stressed. They'll check out of hotels with bad service, boycott stores with high prices, and generally make your life miserable.

Ambient sound adds to the realism. You'll hear horns and traffic, humming elevators, uncontrolled kids running through the hallways, and even splashing waterfalls. You'll also find lots of Easter eggs in the Mac version. Yoot's Tower ships this fall.—*John Lee*



HERE'S A PEEK at the original Japanese version of Yoot's Tower—stay tuned for the English version.

Duality

Double Aught: 718-782-6842, <http://www.doubleaught.com>

Created by Double Aught, Duality is a first-person bang-bang with a difference. Abandoned in ancient ruins on a distant world, you are rescued from an alien lab by the underground and must fight your way past enemies to discover the secrets of the lost builders. But you'll need more than firepower to win in this story-driven shooter. The many enemies and weapons will satisfy your bloodlust, but part of the game's appeal is determining who your potential allies and foes are. Duality's developers, many of whom worked on Marathon Infinity, have packed the game with cinematic cut scenes, moral ambiguities, and puzzles that require strategy.—*John Lee*



WOW—IS THAT A BIG GUN or what?

Teasers



power up

ASK US

power up



FIND THE SHAREWARE and freeware programs mentioned on The Disc.

We answer your technical questions, no matter how simple or complex.

Q I recently upgraded to a Power Mac G3 and I love the speed, but I'm having trouble with my printer, which worked fine on my old Mac. The printer is connected via LocalTalk to the G3's printer serial port. When I click the printer driver in the Chooser, the printer name does not show up in the window on the right side where I used to be able to select the printer. What gives?

A Mac OS 8.1 installed on Power Mac G3 models comes with an extension called LocalTalkPCI, which is a PowerPC version of the LocalTalk driver. This new driver is supposed to provide improved performance with LocalTalk, but it has been found to cause problems, such as the "invisible" printer you're experiencing in the Chooser, loss of connection during print jobs, and difficulty sharing serial printers over a LocalTalk network. To rectify any of these situations, remove the LocalTalkPCI extension from your System Folder, or use Extensions Manager to disable it. You will be able to print without the LocalTalkPCI extension installed, but you won't get the speed gains that it was intended to deliver.

Q Suddenly, my Performa 6200 has been generating a high-pitched tone during startup that stops once the Finder shows up. I haven't noticed any other other unusual problems or errors after startup. Could this be a virus, or is it something else?

A Apple has confirmed that it has received numerous reports of similar behavior on certain Macs running Mac OS 8.1. For some reason, it only seems to happen when the speaker volume is set to an odd number. Apple is working on a fix, but in the meantime, open the Monitors & Sound control panel and change the Computer System Volume up or down a notch; then choose Restart from the Finder's Special menu.

Q Is there a shareware or freeware program that will defragment a hard drive?

A Any time you want to find noncommercial software for the Mac, I recommend you surf over to <http://www.shareware.com> and search its huge database of files. However, I'm not aware of any shareware defrag utilities, nor was I able to locate any at this site.

Defragging, also called optimizing, takes the bits and pieces of files that are scattered over a volume and rewrites them into contiguous blocks so that they can be read more efficiently. Theoretically this improves performance, but in practice the improvement is hardly noticeable unless your drive is severely fragmented with little free space available. If you want to try optimizing your disk anyway, FWB's Turbo ToolKit (650-482-4800, <http://www.fwb.com>) contains a defragger called TurboDisk, Symantec's Norton Utilities (800-441-7234, <http://www.symantec.com>) includes one called Speed Disk, and ALSoft (800-257-6381, <http://www.alsoftinc.com>) makes a stand-alone program called Disk Express. If you want to defrag for free, back up your entire hard drive, reformat the drive, and then immediately restore from the backup. That will write all of the files contiguously and leave you with a current backup (a very good thing to have under any circumstance).

Q Do new Power Mac G3 systems come from Apple with their hard drives formatted as HFS or HFS+?

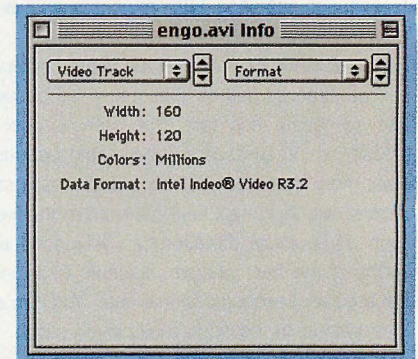
A According to Apple, up until this spring all new Macs came with Mac OS 8.1 on hard drives formatted with Mac OS Standard Format (also known as Hierarchical Filing System, or HFS). However, it appears that units now ship with Mac OS Extended Format (HFS+). If you want to convert from one format to another, start by backing up your entire hard drive. Then boot from the provided Mac OS 8.1 CD-ROM, select the hard drive, and choose Erase Disk from the Finder's Special menu. In the dialog box that appears, choose the format you want, then click OK. When the formatting is complete, use your backup to restore the files to the hard drive. To avoid this extra work when

converting to HFS+, use ALSoft's PlusMaker (800-257-6381, <http://www.alsoftinc.com>).

Q I downloaded an AVI movie from the Internet. Is there any way to play it on my Mac with QuickTime, or have I just wasted my time downloading a worthless piece of Windows junk?

A Audio Video Interleave (AVI) is Microsoft's file format standard used for Video for Windows. To view AVI files on a Mac without QuickTime 3.0, you need Video for Windows, a free Mac utility that converts movie files between QuickTime and AVI formats. QuickTime 3.0 has built-in support for AVI files, so there's no need to convert them before viewing with MoviePlayer.

However, that's not to say that if you have QuickTime 3.0 installed you can



With MoviePlayer 3.0, you can determine which codec was used to compress movies.

watch any AVI file. The video must have been compressed with a compatible codec (compressor/decompressor). AVI movies are commonly compressed using Intel's Indeo Video codec. If you try playing an AVI movie that was compressed using a different version of the Intel Indeo Video codec than the one you have installed on your computer, an alert box informs you there may be problems and you'll likely see nothing but a white screen (although the audio may play correctly). If this is the case, open the AVI file with MoviePlayer 3.0. Choose Get Info from the Movie menu. In the window that appears, choose Video Track from the left pop-up menu, then choose Format from the right pop-up menu. The name and version of the codec used is listed beside the Data Format heading. Codecs are not necessarily backward compatible. So if you

have version 2.0 of a codec installed, it doesn't mean you can view movies compressed with version 1.5 of the same codec. To view a movie, you must have installed the exact same codec that was used to compress that movie.

Once you know the name and version of the codec used to compress the movie, surf over to <http://www.terran-int.com/Codec Central/> to see if it's available for download. Many codecs are available for free, but some are commercial and must be purchased. Once you've properly installed the codec used to compress your troublesome movie, you should be able to view it with MoviePlayer.

Q I have a Performa 6360. The owner's manual says that it can handle a 256K level 2 cache, and yet your magazine has advertisers selling 512K and 1MB caches for this model. Can my machine really use an L2 cache bigger than 256K, and if so, will my Mac take advantage of the entire thing?

A According to the knowledgeable folks at Newer Technology (800-678-3726 or 316-943-0222, <http://www.newertech.com>), the Performa 6360 uses the same L2 cache as the Performa 6400. Apple says you can use only a 256K L2 cache in either machine, but some vendors do indeed sell larger modules you can install. You will see moderate increases in performance with larger modules, but Newer cautions that you also increase the likelihood of instability, since you're pushing the Mac beyond its specifications. If it's greater performance that you seek, I recommend purchasing Speed-Doubler from Connectix (800-950-5880, <http://www.connectix.com>) instead. Speed-Doubler is a great addition to any Power Mac (even one with an L2 cache already installed), and it's remarkably stable.

Q Is it possible for me to use USB peripherals on my Power Mac G3/266 Minotower? Do all USB peripherals work with USB-compliant Macs, or do you need specific drivers?

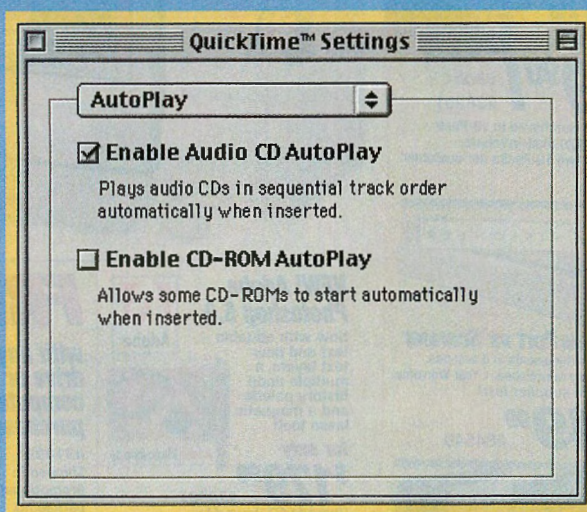
A USB stands for Universal Serial Bus. It's a new technology for attaching peripherals that is gaining acceptance in the Wintel world. It made its premiere in the Macintosh community on the new consumer iMac, where two USB ports replace ADB (Apple Desktop Bus), SCSI (Small Computer Systems Interface), and serial ports for connecting external devices such as keyboards, hard drives, and modems.

Worm Warning

There's an insidious worm wiggling its way through the Power Mac community called the AutoStart 9805 worm. It replicates itself as an invisible program on any volume it can locate by taking advantage of the CD-ROM AutoPlay option introduced in QuickTime 2.0. Symptoms include unusually heavy disk and network activity, plus unexpected system restarts. Once the worm is in place, it overwrites certain types of files, and the only way to recover from an infection is to eliminate the worm completely and restore damaged files from a backup.

The simple preventive action to take is to open the QuickTime Settings control panel (available with QuickTime 2.5 or later), choose AutoPlay from the pop-up menu, and then deselect the Enable CD-ROM AutoPlay check box. Just as the other check box in this control panel allows the Mac to begin playing audio CDs when inserted, the CD-ROM AutoPlay option can be used to launch an application or open a document when a CD-ROM is inserted. However, this works only if the publisher of the CD-ROM has included special instructions in the disc's block zero. In my experience, very few CD-ROMs actually take advantage of this feature, so you're unlikely to lose much functionality by disabling this option, but your Mac will be safe from future infections by the AutoStart 9805 worm. You may leave the Enable Audio CD AutoPlay check box selected, as it doesn't provide any known loopholes that worms, viruses, or Trojan horses can exploit.

If your Mac has already been infected by the AutoStart 9805 worm, disabling the CD-ROM AutoPlay feature will not stop the worm from replicating—it transforms into an invisible extension after the initial infection. If you suspect your Mac has been infected by this worm, run James W. Walker's freeware antidote WormScanner, or check with the developer of whatever commercial antivirus utility you rely upon to see if there's an update that addresses this worm.



Protect yourself against the AutoStart 9805 worm by deselecting the Enable CD-ROM AutoPlay check box in the QuickTime Settings control panel.

USB has several advantages over older bus technologies, including the ability to connect up to 127 hot-swappable devices, but it may prove too slow for certain applications, such as when you need high-speed hard disk access. Nonetheless, USB is poised to become the new Wintel standard, and I wouldn't be surprised to see Apple include it on models other than the iMac in the near future.

For users of older Macs, Keyspan (800-986-9146 or 510-222-0131, <http://www.keyspan.com>) has announced plans to release a sub-\$100 card with two USB ports. It should work with any USB peripheral,

provided the device manufacturer includes a Mac driver. The Keyspan USB Card was slated for shipment concurrent with Apple's release of Mac OS 8.5 (code-named Allegro) this summer. It requires a PCI-based Mac running System 7.6 or later.

Owen W. Linzmayer (askus@macaddict.com, <http://www.netcom.com/~owenink>) is a San Francisco-based freelance writer and the author of *The Mac Bathroom Reader*. Please submit technical questions or helpful tips directly via email or c/o MacAddict, 150 North Hill Drive, Suite 40, Brisbane, CA 94005.

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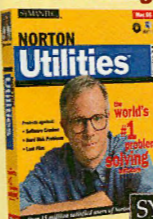
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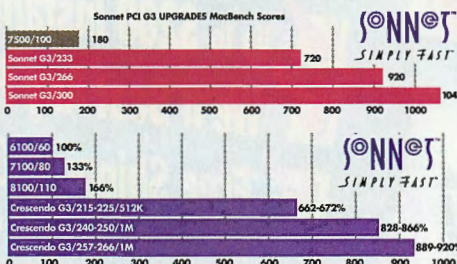
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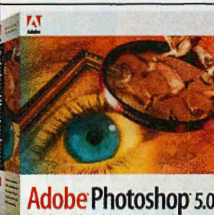
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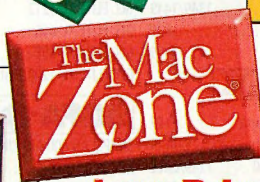
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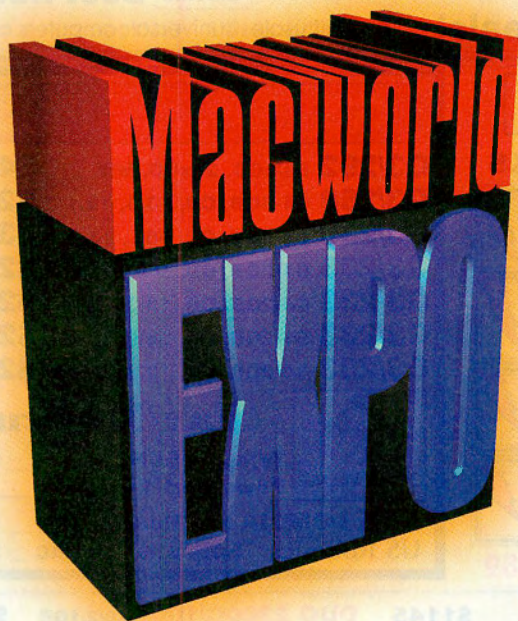
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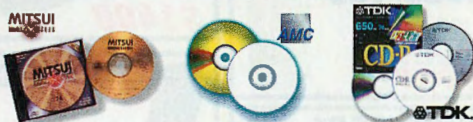
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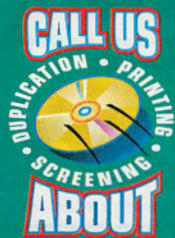
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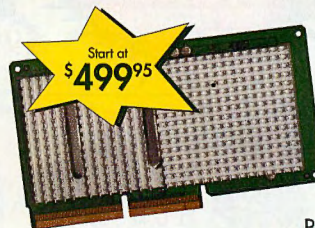
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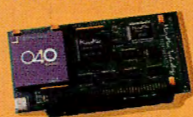


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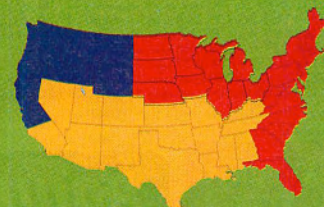
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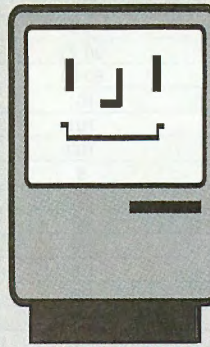
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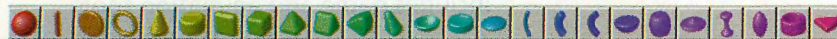


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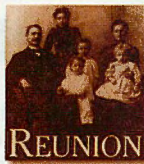
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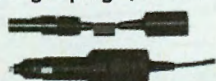
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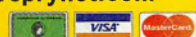
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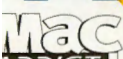
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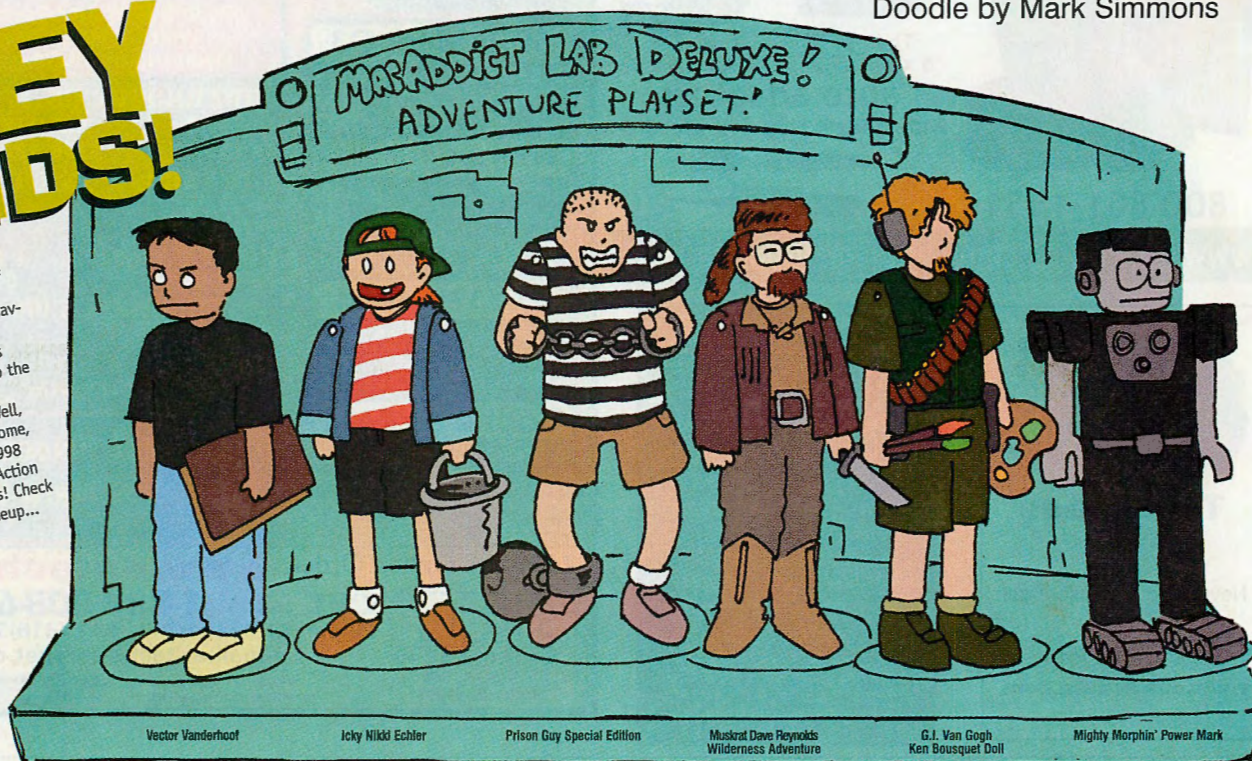
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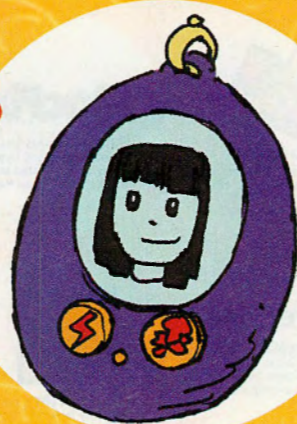
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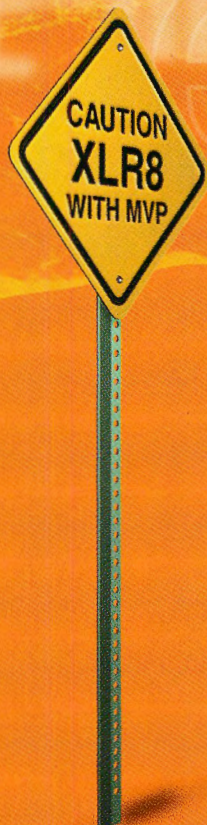


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These MacAddict Action Series figures are no longer on sale, making them extra collectible. Be sure not to take 'em out of the box and diminish the value of your investment!

Dangerous Daniel Drew Turner™
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